University of London: Institute of Education
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The Development of Literacy in the First Year of School

Thesis submitted for the degree of Ph.D.

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is for Possibly

For if there is only one answer, my friend,
To every question then all art must end.
Poets should not slam doors in the mind
But write, possibly, probably, seen perhaps
In a different light?
Then freely explore boundaries
Sensing whether the questions sound right.

Abstract

The Development of literacy in the first year of school

Research evidence (Donaldson, 1978; Wells, 1985a; Hughes, 1986; Tizard and Hughes, 1984) over the last decade and a half has confirmed the competence of the pre-school child. At school entry Donaldson (1989) writes "...that children are highly active and efficient learners, competent enquirers, eager to understand" (p.36). There is less evidence concerning the extent to which educators harness this astounding pre-disposition to learn.

The aims of the research project studied the development of reading in the reception year of school in Part 1 by:

1. assessing the range of literacy development exhibited by 191 children on entry to school;

2. identifying the entry skills that most reliably predict success in reading by the end of the first year of school;

and in Part 2 of the study by:

1. considering the extent to which reception teachers facilitate a mastery of literacy by both capitalising on, and teaching to, each pupil's prior knowledge

Part 1 of the study

In September 1987 and 1988, 191 children were assessed soon after school entry. The different aspects of functioning that were measured were:

1. General maturity and intellectual functioning
2. Literacy related skills
3. Adjustment to school.

At the end of the year in July 1988 and 1989 two aspects of the child's functioning were assessed.

1. General maturity and cognitive functioning
2. Assessment of both written and spoken language.

These data were collected over two years. In 1987/88 and 1988/89 thirty-two classes were studied in sixteen primary schools in the Local Education authorities of Oxfordshire, Berkshire, the former Inner London Education Authority and the London Boroughs of Harrow and Haringey.

The data were pooled and extensively analysed using both descriptive and parametric statistical techniques. The main findings are:

1. Children arrive at school with a possible range of five years in their functioning regarding literacy related skills and intellectual ability.

2. Pearsons correlations, multiple regression and discriminant analyses confirm that the ability to identify letters of the alphabet and write one's name at school entry are the most powerful predictors of successful reading by the end of the year. This confirms the findings of earlier studies of the importance of these abilities (Tizard et al, 1988; Wells & Raban, 1978).

3. Understanding of the conventions of print, although weaker, has a positive relationship with reading.

4. An explanation of these data is that there is a developmental pathway to fluent reading. The child develops through the emergent literacy phase, with the accretion of an understanding of print and text through to the phase of beginning conventional reading. Progression takes place through the transition phase of whole word processing, Frith's (1985) logographic stage to the alphabetic stage into conventional reading. Arriving at school able to identify the letters of the alphabet and able to write one's name indicates a more refined processing of print needed for this transition phase.

5. Children who do not adjust to school are four times less likely to be able to read by the end of the year.

Part 2 of the study

A sample of reception class teachers was investigated through a postal questionnaire survey. The questionnaire examined:

1. The extent to which reception class teachers are aware of the most predictive entry skills;

2. The ability of reception class teachers to identify the skills in their new school entrants;

3. The use that reception class teachers made in their teaching of reading of the most valuable entry skills with which children arrive at school.

Teachers involved with Part 1 of the study were recruited, and an additional group were circulated by the postal questionnaire, in the geographical areas of Oxfordshire, Berkshire, Haringey, Harrow, Lewisham, Westminster, Camden, Hillingdon, Southwark and Greenwich. Sixty-two teachers completed the questionnaire.

The main findings from these data showed that:

1. The majority of the reception class teachers surveyed ranked the importance of the entry skills in the reverse order to those found to be most valuable in Part 1 of the study.

2. Reception class teachers use approaches to reading that develop understandings of print and its usefulness. They foster the enjoyment of books. However, they do not appear to value the importance of orthographic awareness in the child's repertoire of strengths at school entry. The teachers are therefore ill-placed to closely match their teaching to the child's existing knowledge.

The main recommendations are that this study indicates the necessity for dissemination of these research findings The new school entrant is very competent and due apparently to insufficient awareness of the most crucial entry skills reception class teachers are unable to fully capitalise on the child's prior knowledge. It is vital that initial and in-service teacher education address this gap.

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ACKNOWLEDGEMENTS

Definitions of a PhD vary but there is a consensus that a doctoral thesis must demonstrate originality and contribute to existing knowledge. That all theses call on personal resources of time, thought and imagination (Salmon, 1992) is also generally acknowledged. However, the main purpose of the endeavour is viewed differently. PhD projects can be described as a rigorous apprenticeship into the world of research and its procedures, or a personal creative journey through the prolonged development of ideas. Both perspectives carry with them health warnings concerning the demands that will be made on the individual student.

My reasons for attempting a PhD at the outset seem now irrelevant. My motivation to continue on the long journey was, at times, seriously challenged. My personal growth on the path of this endeavour is without question and for which I owe a great debt of gratitude to many people.

I would like to thank my two supervisors Professor Kathy Sylva and Dr Peter Blatchford for sharing their wisdom. Their advice on both research methodology and writing was always valued and without which there would undoubtedly have been no submission. My sincere thanks go to Professor Denis Lawton for his sensitive reading of the final draft. His support has taught me so much about PhD supervision.

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The largest debt is owed to my husband Roy for his support, interest and unfailing faith that this was not only a worthwhile endeavour but that it would be completed.

Jeni Riley, 1994

CHAPTER ONE

Introduction and Review of the Literature of Part 1 of the Study

"Reading affects everything that you do."
Matthew, aged nine

in Stanovich K.E. (1986)
Reading Research Quarterly 2.1

CHAPTER ONE

Introduction

CHAPTER ONE

Introduction

"Reading is important for society as well as the individual. Economics research has established that schooling is an investment that forms human capital - that is, knowledge, skill, and problem-solving ability that have enduring value. While a country receives a good return on investment in education at all levels from nursery school and kindergarten through college, the research reveals that the returns are highest from the early years of schooling when children are first learning to read ... the early years set the stages for later learning. Without the ability to read, excellence in high school and beyond is unattainable." Commission on Reading, National Academy of Education, 1985, (p.1 cited in Adams, 1990).

The starting point for this study is that being able to read in the early years of schooling is the key to educational success (Clay, 1972, 1985, 1991; Bullock, 1975; House of Commons Select Committee Enquiry into Reading, 1991).

The aim of this chapter is to provide the context for a study into the literacy development of young children. The literature reviewed focuses on the research and writing, over the last two decades, concerned with the phases of emergent literacy and conventional beginning reading. The particular emphasis is on those understandings, aptitudes and skills that facilitate the task of reading once the child enters school.

1.10 The value of being able to read early

The implications of poor reading ability are pervasive and far reaching. Low academic achievement is linked to low reading ability. For over two decades it has been known that reading comprehension ability is highly correlated at r=.6 or more with school performance in diverse subjects. (Bloom, 1976; Perfetti, 1976, cited in Daneman, 1991). Reading comprehension is associated with success in very different school subjects. For example, the r=.4 correlation between achievement in science and literature approaches zero when the effects of reading comprehension are partialled out (Bloom, 1976). Success in school learning seems to be controlled very largely by reading ability.

In addition to providing a means of access to all school subjects the ability to read promotes a system of thought (Donaldson, 1989). Literacy enables clear, rigorous thought that can both follow and lead an argument, an essential attribute for academic success: "...the thinking itself draws great strength from literacy ...whenever there is a discussion to develop, whenever there are complex ideas to consider. It is even more obvious that the sustained, orderly communication of this kind of thinking requires a considerable mastery of the written word." (Donaldson, 1989, p.50).

American research indicates that those children who do not appear to make sound progress in reading early in their school careers quickly fall behind (Ferreiro and Teberosky, 1982; Stanovich, 1986). Schooling does not appear to reduce the differences, once they occur, in reading ability (Just and Carpenter, 1987, cited in Daneman, 1991). British longitudinal studies also indicate that once established the gap between achievers and non-achievers remains, or widens, throughout their primary schooling. Those children with the highest scores on a battery of assessment measures at the end of nursery school had made the most progress in literacy by the end of the reception year (Tizard et al, 1988). The lead start was maintained throughout both infant and junior school (Mortimore et al, 1988; Tizard et al, 1988). As a result, concern about academic standards and levels of literacy in particular is being directed towards the youngest children in mainstream school (Clay, 1970, 1972, 1985 and 1987, Gorman and Fernandes, 1992).

Studies which have investigated early reading have been informed by research from different traditions. The emergent literacy phase has been studied by ethnographic research methods in natural settings and the conventional beginning phase has more usually been studied by quantitative, experimental or longitudinal, research methods.

1.11 The research context for the study

Over the past decade and a half research into reading has been influenced by new ways of conceptualising the development of reading and writing in young children. Derived in part by Clay (1966; 1967, as cited by Clay, 1991) and increasingly used in books and articles such as Wells (1985a, 1985b) and Marzollo and Sulzby (1988-1990) as cited by Sulzby and Teale (1991) the term 'emergent literacy' has replaced 'reading readiness' and the notion of a non-literate, limbo state of 'pre-reading'.

Emergent literacy has become the generic term to describe the phase during which understandings are gained through the child inhabiting a print-filled environment. These insights are concepts about print and metalinguistic and print awareness. The findings identifying this developing ability were researched through ethnographic techniques on individual child case studies in the home setting. As children learn to read and write conventionally they are considered to enter a 'beginning reading' phase (Adams, 1990; Juel, 1991). Increasingly and crucially, through the seventies and eighties, the stages of both emergent literacy and beginning reading were viewed conceptually as a developmental continuum, although when studied different methodologies were used (Adams, 1990). Beginning reading was researched through an experimental paradigm often focussed on word reading and was conducted in school. These differing research perspectives failed to produce results that enable comparisons to be made or that can validly inform practices in the teaching of early reading. "We need studies that focus us on the child as a reader/ writer..." and "...longitudinal research across home-school..." that "...investigates the fit between instruction and development" (Sulzby and Teale, 1991, p.751).

From these starting points this study focuses on the precise stage of emergent literacy at which the child enters school and the extent to which her teacher is best able to foster literacy development through beginning reading to fluency. The acquisition of literacy is "...the main road, for the child's mind, out of the situation-bound, embedded thinking and language of the pre-literate years into a new kind of mental power and freedom." (Donaldson & Reid, 1985, p.24).

1.12 The aims of this research project

This study aims to research the development of reading in the reception year of school in Part 1 by:

1. assessing the range of reading development that children exhibit on entry to school;

2. identifying the entry skills that most reliably predict success in reading by the end of the first year of school;

and in Part 2 of the Study by:

3. considering the extent to which reception teachers facilitate a mastery of literacy by both capitalising on, and teaching to, each pupil's prior knowledge.

1.13 Review of the Literature of Part 1 of the Study

In order to establish the parameters for this study a working definition of the process of reading is necessary.

Models of the reading process differ and are partisan. The two main models directly oppose each other. The 'bottom-up' theories propose a sub-skills approach, suggesting that reading is learned by manipulating the smallest units of language initially i.e. letters, words. The 'top-down' theories suggest that the search for meaning is central from the outset and the main strategies for decoding words are prediction and guessing (Goodman, K.S., 1976; Goodman, K.S. & Goodman, Y.M., 1979; Smith, 1971; Smith 1973). These two theoretical positions greatly influence how reading is taught. In the United States the viewpoints are vigorously debated and expressed as 'phonics and direct instruction' versus ' whole language'. On the surface the discussion is about teaching methods but the deeper disagreement is about what it is that children have to learn in order to be able to read. There are fundamental questions central to the issue. Firstly, which aspect of language plays the most important part in learning to read? Are syntax and semantics the most crucial or is phonology? The second issue is one of naturalness. How far can learning to read and write be seen as an extension of speaking and listening or does the child's previous experience of spoken language actually make the acquisition of literacy difficult? Adams, (1991) comments in a paper "Why not phonics and whole language?' that the whole language approach is very difficult to define. It is based on a view of the reading process that has assumptions of (1) child-centred instruction, (2) integration of reading and writing, (3) a disavowal of the value of teaching or learning of phonics and (4) subscription to the view that children are naturally predisposed toward written language acquisition. The authors argue succinctly and with extensive supporting research evidence that polarised positions typically create more heat than light. Pumfrey and Elliot (1992) in response to the debate initiated by Martin Turner in 1991 write "If any single approach to the teaching of reading had unequivocally demonstrated a superiority to other methods, the current controversy would long since be resolved" (p.17).

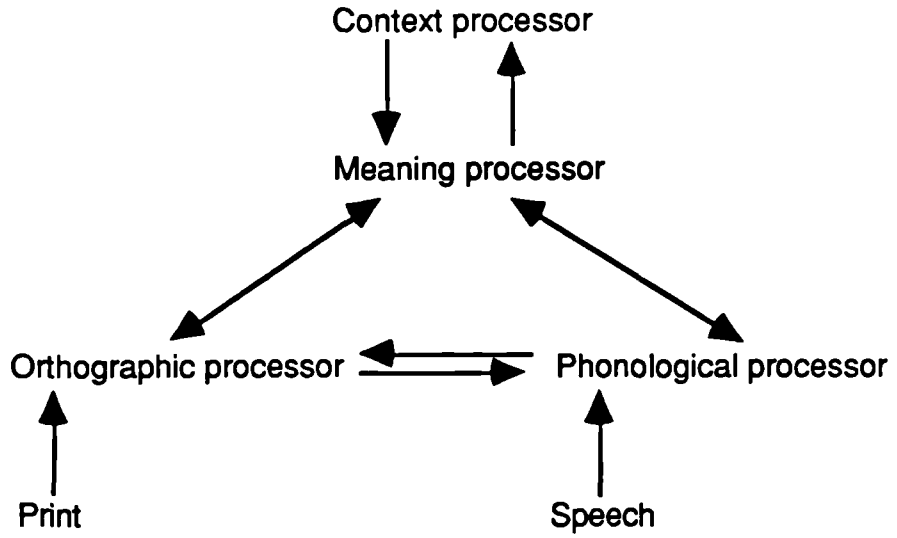
Issues of pedagogy emanate from an understanding of the reading process, therefore in this thesis a model that takes into account that reading is a combination of both

'top-down' and bottom-up' processing skills will be used. An interactive model, which allows for an individual's different knowledge, experience and strategies to be brought to the reading process, is the conceptual and operational framework of the study.

For this purpose reading is defined as "...a complex, cognitive skill, consisting of the co-ordinated execution of a collection of oculo-motor, perceptual and comprehension processes. These include processes that direct the eye from location to location, word-level processes that encode the visual pattern of a word and access its meaning from memory, and text-level processes that compute the semantic, syntactic, and referential relationships among successive words, phrases and sentences in a text." (Daneman, 1991, p.513)

Figure 1 by Adams (1990) makes clear the inter-relationship of the processes of reading to which Daneman refers.

The process of reading and its obvious link with speech and language



Adams (1990, p.158)

Figure 1

The visual stimuli of letters (orthography) are processed in conjunction with the existing sound units of speech (phonology) that they represent. The stimulation has three-way processing, each aspect informing and clarifying the other as they feed into the meaning processor for reading to take place.

There are two main research questions relevant to this study, regarding the interrelated processes of reading. The first is concerned with whether some of these processes are more useful to the beginning reader than other skills. For example, is word recognition more valuable a skill in learning to read than semantic and syntactic contextual information? The second is concerned with whether there are some processes more important at different stages of learning to read. Is the novice reader more likely to rely on meaning and prediction cues than the experienced reader? In other words, is there a qualitative difference in the way that skilled and unskilled readers process text?

To answer these questions, it is necessary to explore what is known about children and their pre-school reading development.

1.20 Emergent literacy

Sulzby (1989) describes emergent literacy as "the reading and writing behaviours that precede and develop into conventional literacy" (p.728). It is therefore concerned with the earliest phases of understanding about print that enables the child to generate hypotheses about the nature of reading and writing. Emergent literacy has expanded the focus of research from reading into literacy. Research findings have shown that reading, writing and oral language develop concurrently and interrelatedly in an enabling literate environment. As stated in 1.11 research designs have developed with the perspectives of the child as a constructor of meaning, the role of the social environment in the process, and the interface between the two. Many studies, free from artificially contrived situations, use naturalistic observation of the child at home.

Goodman, Y.M. (1980) claims that the 'roots of literacy' develop through living in a world of story books, letters, lists and printed materials. The most fundamental understanding is that print has a communicative function (Ferreiro and Teberosky, 1982; Goodman, Y.M., 1980; 1986). The child acquires this understanding in a context-rich way; typically through birthday cards, MacDonalds' signs and toothpaste tubes (McGee, Lomax & Head, 1988, as cited by Sulzby and Teale, 1991). Story book reading as the main aspect of the young child's literacy experience has received the most recent research attention. Correlational studies of exposure to stories with positive relations with levels of language development (Burroughs, 1972; Fodor, 1966; Chomsky, 1972, also cited by Sulzby and Teale, 1991), children's eagerness to read (Mason & Blanton, 1971), becoming literate before schooling (Clark, 1976), and

success in both beginning and later reading (Durkin, 1974-1975); Wells, 1985; 1988). Later research has lead to insights into the value of story reading. In summary these are:-

Story reading is a socially created, interactive activity (Ninio & Bruner, 1978; Ninio, 1980; Heath, 1982, as cited by Sulzby and Teale, 1991).

Young children's independent, not-yet-conventional readings of books grow out of interactive reading and serve to advance children's literacy development (Sulzby & Teale, 1987; Martinez & Roser, 1985; De Loache & De Mendoza, 1987, again as cited in Sulzby and Teale 1991).

Two important features emerge from this body of work relevant to this study. Firstly, the research views the child as an active contributor to her own learning. This learner -centred view of the pre-school reader is influenced by Piaget, Bruner and Chomsky, who stressed in their various ways the constructive, hypothesis-testing, rule-generating nature of human thought, perception and language.

Secondly, the studies highlight the role of the facilitating, interested, interactive adult, usually the parent, who 'scaffolds' the child into greater understanding.

Sulzby (1992) defines the point at which the child can be said to have developed from the emergent literacy phases into conventional reading when she is reading from text (either her own or that of another author) and using three aspects of reading in a flexible and co-ordinated way. The three aspects of reading are letter-sound knowledge, the concept of a word and comprehension. The child has slowly gained these understandings, not yet perfectly formed, through many literacy encounters. The endpoint of the emergent literacy phase is somewhat arbitrary according to Sulzby due both to the advance and regression on the part of the child in her deployment of the three strategies and the imperfect empirical evidence on the part of the researchers.

1.30 Models of reading acquisition in the beginning reading stage

In 1983 Gough, Juel and Roper-Schneider as cited in Juel (1991) found it curious that Singer and Ruddell's 1976 collection of models of reading did not contain one of reading acquisition. The 1985 edition also lacks any thorough model of the reading acquisition process. Juel (1991) claims that there is still no fully comprehensive

model of the acquisition phase of reading development. Juel (1991) asserts that there may well be qualitative differences in the processes involved between a skilled reader and a beginning reader.

Empirical support for this hypothesis comes from studies of older primary children. Experimental psychology has shed insight on the differing word recognition abilities of good and poor readers. Adams & Huggins (1985) took as their starting point that word recognition abilities are the single best class of discrimination between good and poor readers. This fact is held in agreement with the evidence indicating that skilled readers have greater ability to see words as wholes (Adams, 1981; Broadbent, 1967; Huey, 1968; McClelland and Rumelhart, 1982, as cited in Adams and Huggins, 1985). The study examined the effect of context on word recognition in order to pursue the 'top-down'/'bottom-up' processing debate on this valuable ability within the readers' repertoire.

The first of these predictions follows from the assumption that good readers' relevant knowledge and skills are likely to be more elaborate and deeply ingrained than are those of poor readers. Good readers it might be argued are more sophisticated in their co-ordination of cues and that they are able to be more sensitive to the syntactic and semantic relationships within the text, than poorer readers. This is the central tenet of the psycholinguistic theories of Goodman (1976) and Smith (1971, 1973).

The opposing hypothesis of the second of the predictions is that poor readers gain most from context because of their relatively poor 'bottom-up' de-coding abilities. This view has been extensively developed by Stanovich (1980) under the title of the 'interactive - compensatory model'. Evidence for this lies in that semantically appropriate substitution errors are to be found to be especially frequent among younger and poorer readers (Juel, 1983; Weber, 1970). This gives weight to the argument of the overuse of context in preference to the visual details of a word by less proficient readers.

Clarification of these hypotheses is vital in order to usefully inform educational theory and practice.

Adams and Huggins' study entailed presenting groups of pupils, both good and poor readers, with word recognition tasks. The tasks included stimuli using words and non-words both with and without supporting context. These researchers found that this data supports the second of the hypotheses that the extent to which context facilitates word recognition is inversely related to reading ability. The finding has

implications for a study examining the reading related entry skills that most valuably predict those children who will be successful readers. Given the complexity of the reading task, on what aspect of the process does the beginning reader most rely?

"...The degree to which both the fluent and non-fluent reader search for meaning using similar cognitive processes and similar sources of knowledge is important" (Juel, 1991, p.760).

This is a crucial issue and can be explained by two different views of the early phase of reading development.

Both the quantitative and the qualitative growth paradigms have the construction of meaning as the goal of reading. The dissension arises from the most effective way of achieving this. The quantitative growth paradigm suggests that the reader is most successful if minimal orthographic information is used. The proposal is that both beginner and experienced readers use as little graphic information as possible in order to construct meaning. The qualitative growth paradigm suggests that the increasingly rapid and efficient use of maximal orthographic information leads to better comprehension.

1.31 The quantitative growth paradigm

This model asserts that the reading process is viewed as a search for meaning by both the experienced and the inexperienced reader. This search is achieved by the reader's knowledge of language and the world. The quantitative growth in syntactic or semantic knowledge is what differentiates between the novice and the expert (Ehri, 1978; Goodman, K.S., 1976; Goodman, K.S. and Goodman, Y.M., 1979; Smith, 1971, 1973). The theory has been discussed earlier (1.13) and proposes a continuum of literacy development that is begun in the emergent literacy stage (1.30).

1.32 The qualitative difference paradigm

This model is based on the view that there are qualitative differences between the reading processes of experienced and beginning readers. These differences emerge over time as the reader gains new and more efficient ways to identify printed words. This paradigm views reading development in a succession of stages through which

the learner becomes more knowledgeable about orthography (Chall, 1979, 1983; Ehri and Wilce, 1985; Gough and Hillinger, 1980; Mason, 1980; as cited in Juel, 1991).

1.40 Stage models of reading acquisition

In 1965 Gibson described the beginning reader as having to pass through three different stages. "Once a child begins his progression from spoken to written language, there are I think, three phases of learning to be considered. They present three different kinds of learning tasks, and they are roughly sequential, though there must be considerable overlapping. These three phases are: learning to differentiate graphic symbols; learning to decode letters to sounds ("map" the letters to sounds); and using progressively higher-order units of structure." (p.1067) There are several other stage models outlining the child's successive learning of aspects of processing print in their stages. Mason (1980) followed two classes of pre-school children and suggests a three stage hierarchy. First stage readers are at a 'context dependent' level, second stage a 'visual recognition phase', in which the child can recognise a few words out of context and third stage in which the child is able to decode by 'letter-sound analysis'.

Mason's three stages are further refined by those proposed by Uta Frith (1985). Frith describes her three phases as

1) Logographic - during which the child reads words as logograms (or wholes);

2) Alphabetic - in which the reader can distinguish individual alphabet letters and begins to apply crude grapho/phoneme association;

3) The orthographic phase - the more advanced reader is able to analyse words into orthographic units without phonological conversion.

The first two stages proposed by Frith (1985) bridge the child's development from the emergent literacy phase into conventional reading (Sulzby, 1985a, 1985b). Children begin to recognise words by their visual patterns, often recognising their own name or common logos like "Lego" and "Coca-cola". Early reading then depends on striking and salient features, the first letter, the overall shape for example but soon the load on visual memory becomes too great. During the 'logo-graphic' stage, the child treats words as logographs in much the same way as Japanese readers recognise kanji

characters. She has no means of deciphering new words. In the second stage of reading development the child begins to learn letter-sound correspondences and enters the 'alphabetic' phase of conventional reading. A few children work out the alphabetic principle themselves (Clark, 1976). Most children do not. In possession of this crucial understanding the child is now able to decode unfamiliar words and pronounceable non-words. Word recognition and hence fluency is facilitated. The third stage, and final 'orthographic' stage, the child learns the conventions of the English orthography, and can identify words by making use of larger orthographic units, without the need of grapheme-to-phoneme conversion.

Frith believes that once the end of this developmental sequence is achieved, the integration of strategies used is complete. The reader has at her disposal all the orthographic decoding skills associated with each of the stages and is able to use all of them. Marie Clay (1991) calls this integration the 'construction of inner control' through which the child amalgamates all understandings and skills to become an independent, fluent reader. There are important teaching implications of Frith's theory of discrete stages, although somewhat simplistic in comparison with Clay, which will be discussed in 1.72.

It has to be considered, however, whether those reading stages are 'natural' or artefacts of school teaching. Smith (1971) argues very persuasively that the more the child focuses on de-coding the more difficult she will find the text. Ferreiro and Teberosky (1982) support this argument by writing "...the phenomena of divorcing deciphering from meaning and rejecting meaning at the expense of deciphering are school products..." (p.98).

Biemiller (1970) moves the discussion further "...The child's early use of contextual information does not appear to greatly facilitate progress in acquiring reading skill. The longer he stays in the early, context-emphasising phase without showing an increase in the use of graphic information the poorer reader he is at the end of the year" (p.95).

A naturalistic case study of Soderburgh (1977) of her own pre-school daughter clearly indicated two qualitatively different stages of processing print: a selective-cue stage (mainly whole word recognition) and a spelling sound stage. These two stages parallel the logographic phase and her second and third stages of alphabetic and orthographic phases respectively. Research findings point to a more clearly defined developmental sequence of print processing that exists and is necessary for effective comprehension.

The issue concerning the factors relating to the child moving from the emergent literacy stage to beginning reading centres on the crucial skills on entering school given that it appears there may be qualitatively different stages through which the beginner reader has to pass.

There is evidence to support that there are pre-requisite abilities, skills and understandings that facilitate the acquisition of written language.

1.41 Spoken language ability

The connection between de-coding symbols that represent spoken language and knowledge of spoken language (meta-language) is a direct one (Clark, 1976). It occurs at two levels. The level of linguistic awareness at both surface and deep structure level. Halliday (1973) assesses the way children learn spoken language.

"Learning one's mother tongue is learning the use of language and the meanings, or rather the meaning potential, associated with them. The structure, the words, and the sounds are the realisation of this meaning potential. Learning language is learning how to mean" (p.24).

Through this language acquisition and attention to meaning, structure is nevertheless learnt. An awareness of the phonological and grammatical features of language are necessary before reading and writing can be mastered.

Adams (1990) says "...For purposes of learning to read and write, however, these sub-units must be dug out of their normal, sub-attentional status. Children must push their attention down from the level of comprehension at which it normally works. Not surprisingly the deeper into the system they push, the harder it is to do. Thus awareness of clauses or propositions develops earlier and more easily than awareness of words. Awareness of words develops earlier and more easily the awareness of syllables. An awareness of syllables develop earlier and more easily than the awareness of phonemes" (p.294/295).

Halliday (1973) has shown that the child's language development is dependent on the child's problem solving behaviour to meet her communication needs. Learning to read is one aspect of the development of 'a language for life' (Downing, 1979). The acquisition of literacy is an integral part of this total development. Literacy extends

the scope of the pragmatic functions of language through which the child increases her own understanding of the functions and features of language.

As the child attends school her language develops (Clay, 1991) she learns to broaden her use of spoken language to accommodate new registers and functions with differing individuals in a variety of situations. Meanings become richer and more precise, vocabulary widens and sentence patterns become more complex. The child also becomes aware of constructions and conventions present in both written and spoken language.

It seems, moreover, that there is a direct link between vocabulary knowledge and reading comprehension performance (Davis, 1968; Thorndike, 1973, as cited in Daneman, 1991). Thorndike found correlations, between the two aspects of functioning in spoken and written language of r=.71 (10 year olds) and r=.66 (18 year olds). Some researchers have reported that the correlation between vocabulary and reading comprehension is almost as high as the correlation between alternate forms of reading comprehension (Just and Carpenter, 1987, also cited in Daneman, 1991). Wells and Raban (1978) found correlation of r=.45 between oral comprehension and Neale's Analysis of Reading at six years of age, in their study on factors affecting children learning to read.

1.42 Understanding of the task

Children who learn to read early and easily, (some do so before starting school) have one factor in common; they are both knowledgeable about and understand the communicative function of the written word (Clark, 1976; Durkin, 1966).

In contrast and much earlier, Vygotsky (1962) commented on the vague ideas of the usefulness of reading held by many children beginning school. Downing (1979) found this vagueness to be widespread across countries and cultures. Reid's (1966) work clarified some of the early confusions held by children that hinder their progress in reading. Reid described children's uncertainty about whether the picture or text convey meaning. They were unsure of the differences between words, letters and numbers. Most crucially, Reid, comments that the children had little idea of what the activity of reading would be like and what use or value it might have. The understanding of the children in her study developed during their sixth year (i.e. the first year in mainstream school). Francis' (1975) investigation corroborated the findings. Understanding the task clearly affected motivation to learn to read. Clay

(1985) and Downing (1979) further researched young readers' misconceptions about print .

Hall (1987) usefully lists these understandings of print that gradually develop.

"Children learn that:

- when we read we rely on print to carry the message;
- we read and use books in a particular order - from front to back;
- we follow the print in a certain order: line by line, word by word;
- books and print have a certain orientation;
- print is made up of letters, words, punctuation and spaces;
- there are relationships between words spoken and the print observed;
- print is different from pictures;
- there is a language associated with the activity of reading books: front, back, page, word, letter, etc."

Hall (1987, p.32/33)

Clay calls these understandings 'Concepts-About-Print' (1972) and they are now part of every infant teacher's working vocabulary.

Studies exploring the relationship between children's knowledge of the conventions of written language and later reading ability found a correlation of r=.62 (Wells and Raban, 1978). The more recent Infant School Study (Tizard et al, 1988) began to raise the question whether there were other skills at school entry that were more powerful predictors. This line of thinking was instigated by the findings of a relatively low correlation (r=.27) between concepts-about-print and the Young's Reading Test at 7 years of age.

Downing (1979) broadens these pre-requisite understandings. He states that the two rediscoveries of the young reader are (a) to communicate a message to another; (b) to communicate with oneself for the purpose of remembering words or ideas.

Downing added to his 'cognitive clarity' model an explanation which specified more focussed understandings on the part of the child. In explaining his second rediscovery he states that the primary technical relationship between writing and speech is the code of graphemes (letters or letter groups) for phonemes (basic sound units) within larger units called 'words'. Therefore, seven concepts are needed to understand this first technical feature of written English. They are:

1. the concept that the continuous flow of speech can be segmented into parts;

2. the concept of the spoken word;

3. the concept of the phoneme;

4. the concept of code - that an abstract symbol can represent something else;

5. the concept of the written word;

6. the concept of the grapheme;

7. the concept of the letter.

Downing believes that with these two rediscoveries the child moves from the emergent literacy phase of reading development, during which she understands with increasing clarity the communicative function of print and its conventions, through to a focussed processing of the individual representational symbols. This is broadly in parallel with Frith's (1985) three stages of logographic, alphabetic and orthographic processing competencies of the beginning reader.

1.43 Knowledge of the alphabet

Opinion differs on the value of the ability to identify and name letters of the alphabet for the new school entrant. Smith (1973) suggests that readers do not use (and do not need to use) the alphabetic principle of decoding of sound into symbols in order to learn or identify words.

However, Adams (1990) disagrees, and argues that both the immediate and long term impact of reading depend critically on the speed, as well as the accuracy, with which readers can identify the individual letters and words of the text.

Adams (1990) suggests that for over two decades, since the work of Chall (1967) and Bond and Dykstra (1967) in the USA, it has been known that the best predictor of achievement in beginning reading is the child's recognition and labelling of letters of the alphabet.

Interestingly, the wave of studies attempting to teach pre-schoolers the letter names did not produce earlier more successful results in reading (Gibson and Levin, 1975; Ehri, 1983a and 1983b). It would seem that this skill has to be acquired in a more hard won and 'incidental' manner through a more long-term exposure to books and environmental print in the enabling emergent literacy phase of development.

The distinction between the levels of understanding that the emerging literate child possesses is the move from conceptual, to formal, through to symbolic understanding of letters. The symbolic relation between letters and sounds is the basis of the English writing system. Vygotsky, (1978) states, "...A feature of this (writing) system is that it is second order symbolism, which gradually becomes direct symbolism. This means that written language consists of a system of signs that designate the sounds and words of spoken language, which, in turn are signs for real entities and relations" (Vygotsky, 1978, p.106).

Bialystok (1991) conducted a study that explored this gradual shift in understanding of children between three and five years of age. She designed labelling tasks and spelling tasks using plastic letters. Her "moving word" task proved to be the most powerful predictor of success of all the instruments. Through this, she concluded that the most essential insight is the symbolic relation by which letters represent sounds.

Bialystok writes, "...Children's first achievement with letters is as part of a procedure, namely reciting the alphabet... Reading requires symbolic knowledge of letters. The representation must include the relation between the letter and its sound. Objects **have** meanings; symbols represent meanings. Objects can **make** sounds; Symbols **stand for** sounds. Meaning is somehow **in** objects; it is not in symbols. For this reason formal knowledge of the alphabet is not sufficient for learning to read" (p.78).

In the experimental group those children who could read were more successful in all the word tasks, they were the same age and there was no significant difference between their receptive vocabulary scores as the non-readers in the study. Bialystok suggests that, "...the difference between those children who could read and those who could not has something to do with the way in which they understand the letter-sound correspondences" (p.87). The child's knowledge of language gives her access to the symbolic system.

Knowing letter names or sounds on entry to school indicates experience with print, cognitive and perceptual maturity and the requisite attention span. Downing (1979) asserts that superior letter-name knowledge is a symptom of a clearer understanding of the technical features of writing and is the seventh of his concepts on the technical features of print.

The recent British Infant School Study has affirmed the strong relationship between letter identification on school entry and reading at 7 years of age in the top infants (Tizard et al, 1988). Blatchford et al (1987) discussed the six pre-school measures used by the Thomas Coram Research Unit. Of all the six measures (word-matching, concepts-about-print (based on Clay), word reading, letter identification, handwriting and the Wechsler Pre-school and Primary Scale of Intelligence (WPPSI) vocabulary sub-test) letter identification had the strongest correlation (r.61) with later reading.

Results from a follow-up study, Blatchford and Plewis (1990) indicated that there is little difference between the predictive power of letter naming and letter sounding and ability to read at seven years of age. Both are valuable entry skills as regards making a successful and early start on the task of literacy. It seems likely that those children who come to school able to identify and label letters are already functioning in the second stage of reading development, i.e. beginning reading. It is not more important but could be a more advanced stage of processing print following the first stage of understanding both the communicative function and the technical conventions of print. Those children in Blatchford and Plewis' study who knew their letter names, or sounds, were on their way to making grapheme-phoneme associations and possessed the beginnings of orthographic processing of print. In addition the children were moving towards understanding the symbolic nature of the alphabet system.

It is not that the experienced reader decodes letter by letter. In explaining the function of the eye fixations and in the processing of print in the fluent reader, Adams (1991) writes, "...showing admirable adaptivity, then, readers tend to centre their gaze toward the middle of words, taking a second fix to the right when the word is so

long as to require it (Rayner and Pollatsek, 1987). To the extent that any sequence in view is familiar, its component letters pull each other into familiar words and spelling patterns by virtue of the learned associations among them. Because this happens automatically and in the very course of perception, the letters are processed neither independently nor serially. Instead, their recognition is highly interdependent and happens more or less in parallel" (p.22). Ability to recognise and label letters is the first step towards this automaticity.

1.44 Orthographic processing skills

It has been shown that it is not possible for readers to rely solely on semantic and syntactic cues of previously processed text (Daneman, 1991). Good readers are better at word recognition, that is the dual process of encoding the visual pattern of the word and simultaneously accessing its meaning, than poor readers both in and out of context (Perfetti, Goldman and Hogaboam, 1979; Stanovich, 1980; as cited in Daneman, 1991). Poor readers, it has been shown, are compelled to rely more on context in order to compensate for slower "bottom up" word recognition skills. Correlational evidence exists on the role of word recognition in determining reading skill. A consistent finding is that among elementary school children in America poor reading comprehenders are slower to recognise words even when differences in word recognition accuracy are controlled. (Hogaboam and Perfetti, 1978; Perfetti, Finger and Hogaboam, 1978; Perfetti and Hogaboam, 1975; Stanovich, Cunningham and Freeman, 1984; as cited in Daneman, 1991). The correlations are typically in the r=0.5 and r=0.8 range (Stanovich et al, 1984). The relationship between word recognition and comprehension is apparent in the very early stages of reading acquisition (Biemiller, 1970; Groff, 1978). Word recognition depends on the recognition of letters and this is dependent upon a speedy processing of associations of distinctive features of curves, lines and horizontal bars in the letters. The skilled reader is able to recognise the component letters, and letter patterns in a fixated word automatically, with near instanteity (McClelland and Rumelhart, 1982). Young readers acquire these skills as they work with the text using picture, context and distinctive shapes of words as cues.

Francis' (1975) small scale project on 10 children highlights the complexity of the visual information processing task. The more successful readers in her study had an early orthographic processing competence revealed by recognition of the spaced integrity of words in text and of letters in words and the more developed discrimination of the letter patterning of English words.

Adams (1991) in Chapter 6 deals in great detail with the current state of research into this important aspect of processing words. Of relevance to a study on literacy related skills at school entry is the evidence regarding the early determinants of word recognition processing. Seidenberg and McClelland (1989) argue persuasively that there are no such things as 'whole word units' in our heads. Instead the recognition of whole words is the product of activity distributed across the letter recognition machinery. It is only with extreme familiarity with words that they can been seen holistically.

1.45 Phonological awareness

Another factor in the facilitation of word processing is phonological awareness. Letters and groups of letters are the constituents of words, representing the sounds of speech (see Figure 1 on page 5). Words are only symbolic representations of units of spoken language hence the importance of linguistic meaningfulness (Smith, 1971; Goodman, 1973).

Unravelling the interrelatedness of the processing aspects is complicated by a further layer of exploration namely children's awareness of sounds in words. The work of Goswami and Bryant (1990) has explored this in terms of the early ability, to divide words into intra-syllabic units through onset and rime. They say, "...progress in learning to read (or to read an alphabet script at any rate) is probably the most important cause of awareness of phonemes. Children are not particularly sensitive to the existence of phonemes in words at the time they begin to learn to read and if they do not learn an alphabet script they continue to be insensitive to those phonological units for some time" (p.26).

It seems that the ability to identify and recognise letters, and groups of letters (syllables) in words, and relate them to sounds is a pre-requisite for progress into Frith's third orthographic stage of the acquisition of reading. It also is clear that it is through reading that this skill develops (Henderson and Chard, 1980; Rosenshine and Stevens, 1984).

Developing and augmenting progress in reading is children's ability to write. Writing or encoding is the mirror image of reading or decoding, and requires a sophisticated level of phonological analysis.

1.50 Links with early writing

Writing is the mirror image of reading. Adams (1990) asserts that for young or uncertain readers, the potential contribution of writing to reading is immense. Children as authors struggle to express and communicate through their own writing. It is then that they actively come to grips with the most important reading insights of all. Adams comments on the work of Graves and colleagues (1983) studying pre-schooler's emergent writing suggest that the first of the many discrete stages through which children develop is the ability to discriminate between writing and drawing. Clay (1975) identifies thirteen 'principles' which relate to mark making observed in young children.

1. The sign concept
2. The message concept
3. The copying principle
4. The recurring principle
5. Directional principle
6. Reversing the directional pattern
7. The flexibility principle
8. The inventory principle
9. The generating principle
10. The contrastive principle
11. The space concept
12. Page and book arrangements
13. The abbreviation principle

Clay is specific that there is no developmental sequence through the principles but that they are evidence of a more and more refined understanding. Adams' (1990) review of reading programmes, research on pre-reader skills, the knowledge and performance of skilled readers, concludes that "Skilful reading depends critically in the deep and thorough acquisition of spellings and spelling-sound relationships". Adams continues that "Writing is the principle vehicle for developing word analysis skills" (p.420).

Other researchers concur that "...children, when they write, make an approximate correspondence between sounds and letters. They may face orthography problems, but they do not have any further problems with writing, because they are now functioning in the alphabetical system" (Ferreiro, 1985, p.84).

Early writing is dependent upon the child being able to hear the component sounds within words, and represent them with symbols. Bryant and Bradley (1980) found the clear association between rhyming skills in the emergent reading phase and later success in reading.

When Blatchford (1991) explored closely the results of the study from the Thomas Coram Research Unit, he found that handwriting skills were one of the three entry skills to most powerfully predict ability to read (r=.49) by the age of seven. Also the combination of the scores for handwriting, letter identification and oral vocabulary level accounted for 40% of the variance in reading scores at the top of the Infant school.

Writing is, as it were, a window into the child's understanding of print (Clay, 1991). It is through writing that the young child struggles to come to grips with encoding speech sounds into a symbol that can be decoded back by others into speech. This activity is incorporated into many reading programmes such as the Breakthrough to Literacy Approach (Mackay et al, 1970) and Marie Clay's Reading Recovery Programme (1985). The first writing usually attempted by a child is her own name. It is a highly personal, deeply significant action, which motivates on several levels.

Ferreiro and Teberosky (1982) studied the ways that children come to understand the sound/symbol relationship of orthography. They identified five stages in this development. Marks involve:

1. An intention to create a message. Children realise writing is different to drawing

2. Marks have a more graphic and conventional form

3. Marks begin to have sound value

4. Marks move from the syllabic to the alphabetic

5. Marks are now solely alphabetic. The irregularities of spelling are not yet appreciated but their concept of sound/symbol relationship is systematic.

For most children Milz (1985) found these understandings develop during the first year of school but are not reliant on formal instruction for emergence. This knowledge, Hall (1987) suggests, has been achieved by observation, interaction and experimentation.

Writing development always includes reading development as the child moves towards conventional literacy (Sulzby, 1992)

1.60 Adjustment to school

Social and environmental influences have the power to affect learning. Clark (1976) found that those children who read easily and early had tended to be settled into school happily.

The difficulties that children have coping with the discontinuity of school and home is documented in the Cleave, Jowett and Bate (1982) study - 'And so to School'. The researchers looked at factors such as the physical environment, routines, and the language used by the adults, and the problems they presented to the young school entrant. The size of the buildings, the artificiality of a day segmented and structured and the ways in which the child was spoken to by adults, all presented difficulties for the bewildered new pupils. Willes (1983) focussed on the language teachers used in questioning and found it to be very different to that used by mothers at home. Factors within the child such as preparedness for school were studied by Chazan, Laing and Jackson (1971). Children were assessed on an interview rating as poorly-prepared or well-prepared for school. Aspects in the child's previous experience thought relevant to starting school were considered, such as familiarity with books, nursery rhymes, the scale of provision of play materials at home and opportunities to meet the other children before school entry. The conclusion of Chazan et al was that the degree to which a child was well-prepared was related to socio-economic factors and aspects of the parents' backgrounds such as their attitude to education.

A positive relationship between school readiness and later educational performance has been shown in early studies (Ilg and Ames, 1965; Johannsen 1965). 'Readiness is necessary for success' (Austin and Lafferty 1968). The child who is ready for school and hence makes a satisfactory adjustment to it is more likely to be successful in the rest of his educational career than the child who because he is not ready, finds difficulty in coping with the school situation (Thompson, 1975).

Thompson developed a scale that focussed on three areas of behaviour that might generally be accepted as indicative of how well a child was coping with school.

a) personal emotional adjustment - this area focussed on the independence and self-reliance of the child and the extent to which she could accept criticism and admonishment.

b) social adjustment - this area of functioning looked at whether the child is able to relate satisfactorily to adults and peers.

c) attitude and behaviour in response to intellectual demands - this area was studied by looking at the extent to which the child is interested in her work, concentrates and involves herself and uses time and opportunities valuably.

The Thompson questionnaire with a twenty-four point scale was completed after half a term in school on one hundred and thirty seven children. The samples were divided into two, and the results factor analysed. In one half of the sample, the results demonstrated that those children who had attended nursery school, were rated more favourably by their teachers, in the cognitive area of functioning. In the other group, having attended nursery school was not positively related to settling into school and coping well with its demands. The predictive nature of the instrument was not shown in this initial study but was confirmed in Thompson's later work.

Assuming that the child has settled well the crucial variable in the child's acquisition of literacy is her teacher.

In studying the transitional stage of reading between emergent literacy and beginning conventional reading it is necessary to identify the literacy related skills and understandings required for the child to progress with formal reading.

1.70 Summary of aspects of written and spoken language present at school entry found to be strongly related to early reading

1. Spoken Language Development

In her study on children who read early, Clark (1976) found their linguistic development was precocious. Wells and Raban (1978) also found oral comprehension at age 6 correlated significantly with reading at 7 years of age.

2. Understandings about print and text

The 'fundamental insight' that print is meaningful (Smith, 1971), 'Cognitive clarity' about print (Downing, 1979), 'Linguistic awareness' (Mattingly, 1972) and 'Concepts-about-print' (Clay 1972; Wells and Raban, 1978) cover the growing knowledge, that print is meaningful, it represents speech, and that it has its own unchanging conventions.

3. Orthographic awareness

Recognition of and ability to label the letters of the alphabet is highly related to reading at 7 years in both the Wells and Raban study (1978) and the Infant School Study (1988) with correlations of 0.69 and 0.61 respectively. Handwriting skills, of which ability to write one's name is a large proportion of the measure assessed, is correlated 0.49 with reading at 7 years in the Thomas Coram Study (Blatchford and Plewis, 1990).

4 . Emotional Adjustment to School

The task of learning to read requires high levels of motivation, persistence, ability to concentrate for long periods (Durkin, 1961; Clark, 1976). The ability to apply oneself to the task in order to succeed will, to a very great extent, be dependent on the manner in which the young pupil has settled into the new situation of school. Clark (1976) found the early readers had happily adjusted to school, in the Wells and Raban study (1978) children with higher scores on the Bristol Social Adjustment Guide (i.e. indicating that they were less settled) were likely to have lower measured reading attainment.

This study draws on the insights gained by research into the emergent literacy and the first phase of reading acquisition of beginning reading over the last two decades. The conceptualisation of the methodology has been informed by research perspectives previously discussed in 1.11.

The aims of part 1 of the study are firstly to investigate empirically where each child in the sample is on the continuum of development of early reading; secondly to explore which skills and understandings on school entry most valuably predict successful reading by the end of the year.

Chapter 2 will discuss the design of the study and the methodology.

CHAPTER TWO

Methodology of Part 1 of the study

Concepts About Print - A Child's Reaction

An interesting comment by a child being tested. She was going through the Concepts about Print books and the teacher noted she said Nice Book! Funny Writing! Who writed it! then she turned to the cover and read Maree (Clay under breath) Clay, funny Lady! and then continued with the items.

Marie Clay (1993)

CHAPTER TWO

Methodology of Part 1 of the study

CHAPTER TWO

2.10 Aim of Part 1 of the study

This chapter will address the conceptual and methodological issues that underlie the design of the study.

In Part 1 of the study the following research questions are addressed:-

1) What range of literacy related entry skills are present in a sample of new school pupils?

2) Which entry skills are most highly related to reading at the end of the first year of school?

3) What are the relative predictive values of the entry skills when their accumulative effects are taken into account?

4) Given the children's entry skills, to what extent is it possible to predict whether they will be reading or not at the end of the first year of school?

In Part 2 of the study the following research questions are addressed :-

1) Given that certain entry skills are more valuable than others to facilitate reading, what effective use do reception teachers make of them?

   (a) By acknowledging them?
   (b) By fostering them?
   (c) By capitalising on them?

2.20 The research design of Part 1 of the study

The research design follows the tradition of large scale studies into school progress and with the particular emphasis on literacy development (Wells, 1978, 1985a, 1985b; Tizard et al, 1988; Hackney Literacy Study, 1988) for the choice of instruments. Small scale experimental studies into word reading and de-coding mechanisms (Frith, 1985) have influenced the interpretation of results.

Due recognition is paid to the multi-facetedness of effective learning in literacy. Durkin (1974-75) quotes Ausubel that (reading) readiness is the adequacy of existing capacity in relation to the demands of a 'given task' If the 'given task' is reading the 'existing capacity' will be composed of inherited ability, maturational and experiential factors. These different facets of the child's functioning integrate in order to facilitate the mastery of the complex skills required in learning to read.

The research was designed to allow for this complexity and to fully explore the patterns of relationships between the variables. The multi-variate design allowed the many variables to be analysed together, prospectively but also independently. The inter-relationship of the variables could be inspected through the correlational analyses and multiple regression.

A study investigating the acquisition of literacy during the first year of school requires a definition of progress. Tizard et al (1988) are at pains to define the differences between attainment and progress. The distinction is an important and complex one. Attainment, the TCRU researchers argue, on a Mathematical test, for example, measures the child's knowledge and understanding in Mathematics, at a "particular point of time" (p.29). Attainment is therefore a cross-sectional concept. Progress can be said to be a longitudinal concept as it monitors change over time. The measurement of progress allows relative comparisons to be made between children in the first year of school.

Galton et al (1980) are also concerned in their study to make it clear that simple gain scores are not the complete answer. Whilst a simple subtraction of pre-test from the post-test score, is attractively simple, it masks what can be calculated to be true progress. Pupils with low scores on the pre-test will appear to make greater progress than those with higher pre-test scores. The difficulty arises from the fact that the pre-test scores tend to correlate negatively with simple gain scores. Galton et al in line with Barker-Lunn (1970) and Bennett (1978), used residual-change scores with which to measure pupil progress. A residual change score is the difference between the observed and the predicted post-test score. The magnitude of this difference represents the extent an individual pupil has progressed more than expected judged on her achievement at the beginning of the year.

This conceptual consideration informed the analyses carried out on the data as they revealed a wide range of functioning at school entry.

Three different aspects of the child's functioning were measured on school entry:

1) General maturity and intellectual functioning
2) Literacy related skills
3) Adjustment to school.

Two aspects of the child's functioning were assessed at the end of the school year:

1) General maturity and cognitive functioning
2) Written and spoken language

Research with a multivariate design produces multiple scores for each individual. This approach would require a statistical method that would be able to examine the predictor variables (the entry skills) but not in isolation. It was decided that multiple regression analysis would be the most appropriate statistical technique.

This technique measures the contribution of a specific, individual entry skill in combination with other skills at school entry in order to explain its power to predict success in reading. In other words, multiple regression is able to measure the amount of variance that a particular predictor variable accounts for, when its effect is considered in conjunction with other entry variables, and regressed onto the outcome measure of the reading score at the end of the year.

2.30 The sample

The intention to examine the multivariate data through multiple regression analyses allows for explanation of the multi-faceted nature of the skills required in the acquisition of literacy. A modestly 'large' sample of approximately 200 was the target, in order to satisfy the numerical requirements of the statistical technique of regression analyses. A sample of this size also provided opportunities for comparison to be made with the closest sister study to the present one in terms of research design (Tizard et al, 1988).

2.31 The location of the study and the ages of the children in the sample.

A reasonably wide geographical and socio-economic base was chosen for the study. This contrasts interestingly with the deliberate choice of an inner city location for the Infant School Study. The data were collected over two years. In 1987/88 twenty-three classes were studied in fourteen primary schools (see Table 1A). The schools

were in the Local Education Authorities of Oxfordshire, Berkshire, the former Inner London Education Authority and the London Boroughs of Harrow and Haringey.

TABLE 1A

Year 1 Schools/teachers/gender of children/spread of ages on entry to school
n = 123

Schools	A		B	C	D	E	F	G		
Teachers/ class	1	2	3	4	5	6	7	8	9*	10 *
Number of boys	4	3	3	3	4	4	3	2	1	2
Number of girls	3	4	4	4	3	3	4	2	4	2
Spread of ages on school entry	4.8 -5.0		4.8-5.0	4.9-5.0	4.1-5.0	4.2-5.1	4.4-5.0	5.2 - 5.5		

Schools	H		I		J		K			L		M	N
Teachers/ class	11 *	12 *	13	14	15	16	17 *	18 *	19 *	20	21	22	23
Number of boys	2	2	3	4	2	3	1	2	3	4	4	4	3
Number of girls	1	2	4	3	5	4	2	1	2	2	3	3	4
Spread of ages on school entry	5.2 -5.5		5.2 - 5.5		5.2 - 5.5		50 - 5.4			5.1 5.4		5.1 - 5.4	5.2 - 5.7

* Vertically grouped classes

In 1988/89 the classes of six of the reception teachers were monitored with a new intake of pupils and three new classes were added (see Table 1B). The nine schools were situated across the same geographical area.

TABLE 1B

Year 2 Schools/teachers/gender of children/spread of age on entry to school

n = 68

Schools	A	C	E	G	I
Teachers	1	4	6	9*	24
Number of boys	5	4**	4	2**	5
Number of girls	5	4**	6	5	5
Spread of ages at school entry	4.8-5.0	4.9-5.0	4.2-5.1	5.2-5.5	5.2-5.5

Schools	J	M	O	P
Teachers	16	21*	25	26
Number of boys	6	5	5	5
Number of girls	4	1**	5	5
Spread of ages at school entry	5.2-5.5	5.1-5.4	4.11-5.1	4.11-5.3

* Vertically grouped classes

** Sample loss

2.32 The choice of schools and teachers

The Infant School Study found that entire groups of reception class children, with a range of entry skills, made quantifiably different rates of progress in the first year of school (Tizard et al, 1988). Whilst the Thomas Coram Research Unit did not explain the differences between classes, it is reasonable to assume that the effectiveness of teaching varied. In the present study, it was decided to use, for convenience, a sample achieved through personal knowledge, and recommendations of LEA advisers. It was presumed that reception class teachers would vary in experience, in quality and that there would be different levels of competency in applying different methods of teaching reading. It was also decided not to investigate classes of new

school entrants who were to be taught by reception teachers acknowledged to be ineffectual. The permission of Local Education Authorities would hardly have been forthcoming in that situation.

The sample was achieved through the recommendation of the advisers and inspectors of the Local Education Authorities. All the teachers had the reputation of being experienced and effective reception teachers. All the schools in which the teachers worked were considered by the author and LEA advisers to reflect good primary practice. However, there existed considerable variation in both teachers and schools across the sample adopted.

The LEAs in which the sample schools were located gave their permission for the researchers to have access. Parental permission was also given to assess those children selected to be studied.

2.33 The schools

The details of sampling are discussed in 2.31 and 2.32). Barker (1983) argues that given that the principles of generalisability are addressed i.e. size and spread of geographical area the following criteria should be considered when designing a research project with a multivariate model.

a) A fairly large sample should be aimed at in order to allow for attrition and allow for appropriate analysis.

b) Criteria of randomness should be observed when selecting individuals given methodological and ethical limitations.

c) The research conclusions should be based chiefly on regression analyses in which individual scores rather than group scores should be used; this minimises the recognised limitations in the sample's randomness

2.34 Socio-economic issues and educational attainment

The link between social class and educational achievement is well documented. Social class is usually assessed by occupation according to the Registrar General's classifications. The major divide is between the classification of middle class and working class workers. The most extensive evidence of the differences are derived from nation-wide studies of both cohorts (Davie, Butler and Goldstein, 1972; Osborn

and Milbank, 1987). The recognition that social class is a powerful predictor of educational success (Hutchison et al, 1979) led to the sixteen schools in the sample being selected with a rigorously upheld criterion. All the schools chosen had a mixed intake population from both owner-occupied and council-owned homes. A range of socio-economic status across the whole sample of 191 children was attempted in this way. Also the research design was such that the influence of background variables on the child's functioning, such as parents' occupation, educational level, social class and socio-economic group would be reflected in the child's assessment at school entry. This influence, it was assumed, would remain stable over the 10 months of the research project.

Although all schools received children from both council and owner-occupied housing, the balance was not uniform across all the schools in the sample. However, all the schools were operating within, approximately, the same type of circumstances, that is no school contained a majority of an extreme of social class, ethnic minority or children with educational special needs. The schools were selected during May and June in both 1987 and 1988.

The organisation of the classes studied was also varied. Ten of the classes were vertically age-grouped through the whole infant range. Twenty-two classes were horizontally age-grouped, and contained children of one year group only, albeit with two and three intakes of new entrants during the year. The age of the children varied, some were not admitted until the term after their fifth birthday, and others went to school as "rising fives" (see Tables 1A and 1B). As the ages of the children on admission varied between 4 years 1 month and 5 years 4 months, age was accounted for in the analyses.

2.40 Selection of children in the sample

A balance of gender, race and socio-economic status was aimed for through the selection of the children from the class registers. As class teachers would not reveal socio-economic status of their pupils, the sole criterion for selection was between owner occupied and council owned home ownership of the parents of the child. The children were selected in a stratified random way from the school register as far as was possible with an equal representation of boys and girls from owner occupied and council homes.

Through this method of selection of schools, reception classes and children from within the classes, it was felt that the findings of the study could with caution be

generalised. In support of these claims, it can be argued that the sample was moderately large (191) and that the schools were spread over a wide socio-economic and geographic area. Also, that the children's scores were to be analysed individually and collectively and not as class cells, where imbalance would have an adverse influence.

2.41 The researchers

Due to the short time span for assessing the children (within the first four weeks of starting school) three psychology graduates and the author were trained in the use of assessment techniques by an independent researcher.

In 1987 seven children were aimed for in each class, except in the vertically grouped classes in which the entire new intake of reception children were automatically tested. Due to sample attrition during the first year of data collection in September 1988 the design of the study was modified. In September 1988 the intention was to asess ten children in each class. The same procedure as 87/88 applied in the two vertically grouped classes.

2.50 The method

The first part of the study addressed the two research questions set out in 2.10 of this chapter. Aspects of intellectual functioning that can be described as literacy related entry skills and indications of intellectual maturity were assessed. The 191 children were assessed in two cohorts. At the beginning and end of the academic year, 123 and 68 children were assessed in 1987/88 and 1988/89 respectively. The children were assessed within the first month after their admission to school. The opinion of the class teacher was sought as to when the selected sample of school entrants in her care were able to cope with a researcher and the battery of tests (called "games"). This was in most cases after the children had been in school about two weeks and were attending full-time. The assessments were usually carried out by a researcher in a room adjacent to the classroom, where the child still had sight of her class teacher.

The extent to which the child was emotionally capable of coping with the demands of school and learning was assessed by means of the Thompson "Settled Into School"

questionnaire (Appendix 1). This was completed by the class teachers after the children had been in school for six weeks or half a term.

The research evidence for choosing those literacy related skills and aspects of cognitive functioning to be assessed has been discussed in detail in Chapter 1. The tests used, whenever possible, were standardised or had a currency of validity within the research world (see 2.51). This issue will be discussed separately instrument by instrument. The reason for this was to allow comparison of the findings with other studies. In addition, it was attempted to capitalise on the insights gained through three different research perspectives; (a) the crucial and pre-requisite understandings about literacy that develop during the emergent literacy phase on which descriptive studies (as cited in Sulzby and Teale, 1991) have provided enlightenment in the analyses; (b) the small scale experimental studies for the detailed analysis of the de-coding processes with the particular focus on the transitional reading stage (e.g. Frith, 1985); (c) also the large scale empirical studies that explored educational and literacy progress through a repeated multi-measure longitudinal research design (e.g. the Infant School Study).

2.51 The instruments used in the present study

The Test	Administered **Pre-test**	**Post-test**
The BOEHM Concept Development Test (1971) Booklet 1 Booklet 2	Sept '87 Sept '88	July '88 July '89
The British Picture Vocabulary Test (1973)	Sept '87 Sept '88	July '88 July '89
The Draw-a-Man Test (Goodenough revised by Harris) 1963	Sept '87 Sept '88	_____
Concept-about-print test (adapted from Marie Clay by author (1987)	Sept '87 Sept '88	July '88 July '89
Knowledge of the Alphabet Test	Sept '87 Sept '88	July '88 July '89
Ability to write own (first and family) name or ability to copy first name	Sept '87 Sept '88	_____
Neale's Analysis of Reading (1975)	Sept '87 Sept '88	July '88 July '89
Thompson School Adjustment Questionnaire completed by teachers (1975)	Nov '87 Nov '88	_____

2.52 Tests to assess spoken language, verbal comprehension and intellectual functioning

The BOEHM Test of Basic Concepts (BOEHM,1971)

The test was designed to measure children's mastery of basic concepts considered necessary for achievement in the first years of school. It purports to test the child's body of knowledge through her understandings of concepts such as "below", "different", "middle", "more", "top" and "last". These terms were selected to assess relatively abstract ideas that would be needed in the areas of reading, maths and science in the curriculum. It tests these understandings and concepts through comprehension of verbal questioning related to a picture booklet. As such, the assessment is of verbal ability, as well as conceptual maturity, as it is conducted orally.

The child is not required to make a verbal response but point to one of the pictures that corresponds to the sentence that the examiner gives. Minor anglicising alterations were made to the wording in order to make it more familiar to the child e.g. 'truck' was changed to 'lorry'. Although the test was designed primarily as a group test for use with five year olds, in the project the researchers administered the test individually, in keeping with the other assessments.

The test takes approximately 15 minutes to administer. The raw scores were used in the analyses.

2.53 The short version of the British Picture Vocabulary Scale (Brimer & Dunn, 1973)

The BPVS was designed to measure a subject's receptive vocabulary for standard English. The authors claim that it is an achievement test since it shows the extent of English vocabulary acquisition. It provides an estimate of one major aspect of verbal ability for subjects who have grown up in a standard English speaking environment.

It was chosen as it offers an indication of verbal comprehension and can be regarded as being important to early reading. The BPVS has been standardised on young children in this country and also has been widely used e.g. the Combined Nursery Centre Project, Ferri et al (1981). The test also correlated r=.8 with an intelligence measure such as the Stanford Binet, (for a normal sample, quoted by Brimer and Dunn 1973), so can also be considered an indication of intellectual functioning, as

vocabulary has been found to be the best single index of school success (Dale & Reichart, 1957).

As a measure of verbal ability the BPVS is an adaptation of the American Peabody Picture Vocabulary Test and uses American pictures. The authors claim that those pictures that might be unfamiliar to English children were removed from the test (Brimer and Dunn, 1963). The receptive vocabulary is tested by the child being shown a page of four pictures and her task is to point to the one that corresponds to the word spoken by the examiner. The short version has been standardised (see Appendix 2 for details of reliability measures).

The British Picture Vocabulary Scale and the BOEHM Test of Basic Concepts complement each other to give a full picture of the child's baseline of cognitive functioning at school entry. Progress over the year could then be investigated thoroughly rather than a 'snapshot' of attainment at the end of the first year of school.

2.54 The Draw-a-Man test

The original Goodenough Draw-a-Man test (1924) purported to be a reliable non-verbal measure of intellectual capacity. Goodenough considered that the drawings of young children were an indication of conceptual maturity rather than aesthetic content. Harris (1969) revised the test and used a 73 point scale to establish broad age norms. Anastasi (1968) found a high correlation between the test and other measures of reasoning, spatial aptitude and perceptual accuracy.

In this study it was decided to use the test as an indicator of an aspect of intellectual maturity and also as a valuable "settling down" activity to begin the assessments. A third reason for the use of the Draw-a-Man test was to invite a child to draw a picture of herself and a logical next step to label it with her own name. This gave a valuable insight into understandings of the distinctness between writing and drawing discussed in 2.57. See Appendix 3 for scoring guide, Harris (1969). And Appendix 23 for examples of the drawings.

2.55 Concepts about print

A crucial aspect of learning to read is "understanding what readers do" (Hall, 1987) and how print functions. The work of Clay (1972) and Downing (1979) gave insight

into children's misconceptions about the task of reading. Through exposure to print from their first few months children gradually develop these concepts about print.

Marie Clay's assessment technique 'Sand' (Clay, 1972) and 'Stones' (Clay, 1979) examines these aspects of reading and knowledge of the conventions of print. The test consists of a twenty-one page booklet which looks like a story book. It follows the reading book/primer style of text with an illustration on the facing page. As the story progresses odd things begin to happen: illustrations invert, text inverts, lines, words and letters are mixed up. These deliberate 'errors' have clearly caused confusion as publishers find it necessary to inform people that the errors are intentional! This indicates that the assessment technique is contrived and problematic to administer.

Hartley and Quine (1982) and Goodman Y.M. (1981) reviewed the test and criticised it for being 'unnatural'. Children that they used it with thought it to be a 'silly' book and frequently refused to respond to what they found to be confusing observations. Goodman suggests that teachers need to adapt the principles behind the test and use them on any good picture book. Riley (1987) devised a test using a 'pop-up' picture book previously unknown to the children as it was purchased from a publisher's off-set point. The test aims to examine and measure the level of emergent literacy in the subject in the following areas:-

1) Concepts about book orientation

2) Concepts about whether print or pictures carry the text message

3) Concepts about directionality of lines of print, page sequences and directionality of words

4) Concepts about the relationship between written and oral language

5) Concepts of words and letters

This assessment procedure was enjoyed by the children, repetition often demanded and frequently remembered with pleasure from September to July. For test details see Appendix 4.

2.56 Knowledge of the letters of the alphabet (both names and sounds)

Recognising the letters of the alphabet by labelling them with either the names or sounds indicates experience with print, cognitive and perceptual maturity and a developed attention span. This measure was used also in order to explore the relative value between being able to focus on a specific task of recognition of the alphabet and wider print awareness following the TCRU findings (Tizard et al, 1988).

The measure of letter identification used was similar to that employed by Blatchford et al (1987). The children were shown the 26 letters of the alphabet in both upper and lower case printing (not in alphabetical order). The tester asked 'Do you know what this letter is?' and on a response of the name the tester asked, 'Do you know what sound it makes?'. If the child supplied the sound the tester asked, 'Do you also know what the name of this letter is?'

The child scored a point for knowing either the name or the sound or two points for knowing both. In the second year of data collection a discrimination was made between letters and sounds in the analyses.

2.57 Ability to write or copy name

The longitudinal Infant School Study (Tizard et al, 1988) reported a r=.61 correlation between handwriting skills on school entry and reading measured at seven on the Young Reading test. The measure of writing ability differed from that used in the TCRU study. The child, after drawing a picture of herself, if able was asked to label it by writing both first and family name. If the child was not able to write even her first name it was written by the tester and the child was invited to copy it. If the child was able to write both names a maximum of a score of 20 was achieved given the accuracy, letter formation and spacing. If only the first name was written this was given a maximum of 10 points. If the child copied only this received a maximum score of 5 points

The assessment was of a limited aspect of writing in the ability to write one's name. However, Blatchford and Plewis (1990) found the pre-school handwriting test correlated r=.5 ($p<0.0001$, n=206) with 7 year old writing test scores in addition to the strong relationship with reading mentioned earlier. The process of writing is the mirror image of the process of reading, and the understandings of literacy develop jointly through exposure to the two activities (Durkin, 1966; Chomsky, C. 1971a, 1971b).

2.60 The standardised reading test

In a study that is investigating progress in reading a measure with a numerical outcome must be used. The choice of test was particularly crucial in this study as the score obtained was to be the dependent variable in the analyses. The author acknowledges the limitations of the use of standardised tests, particularly in the early stages of beginning reading. Criticisms of standardised tests concern the arbitrary nature of a scoring system that one error too many records the child with no reading quotient at all. The choice of vocabulary is crucial in the early stages of reading: chance will dictate whether the result of that individual had a discrepancy between a reading age of 6 or 7 years. Other criticisms of standardised tests from the emergent literacy view of reading would be the artificiality of the testing itself for a very young child, the unknown quality of the text and the unfamiliarity of the researcher. All these factors militate against success or maximum performance, it is claimed by the critics.

2.70 Neale's Analysis of Reading

The Neale's Analysis of Reading Ability is one of the most widely used tests of prose reading ability in the United Kingdom. It is used by teachers and psychologists to monitor reading progress (Stothard and Hulme, 1991). It has also been widely used for research purposes (e.g. Bryant & Bradley , 1985).

Reasons for the choice:-

1) It is an individually administered test;
2) It looks more like a reading book with text and supporting illustrations, than a test;
3) It is testing words within a supporting context in contrast to a list of vocabulary (e.g. Schonell);
4) It has a wide reading ability range within its limits (6 years-13 years reading ages);
5) The format of administration is simple and quick.

The child reads aloud from one to three parallel test sections of progressive reading difficulty. She progresses from the earliest level to the one in which more than 16 errors are made. The scoring is achieved by deducting one of the 16 marks awarded to each page, for each error. The child scores a total of 16 marks for each completely correct (error free) page. The same for each page is totalled and this calculates the

raw score. A reading age score is standardised from a conversion table against chronological age. The raw score was used as age was taken into consideration in the analyses for the whole sample of 191. The child scores the lowest score of 1 i.e. a reading age of 6.2 if she has read the first page with no more than 15 errors.

The standardisation of Neale's Analysis of Reading is its greatest weakness. The test was standardised and first printed in 1958 and the vocabulary and illustrations are rather dated.

Since collecting the data for this study it has been revised (Neale, 1989). The story content has been updated and the presentation style modernised whilst retaining the general format of the original test. However, a note of caution is sounded by Stottard and Hulme (1991). They have misgivings about the reliability of the parallel forms which they found the test to yield measures that were not equivalent across the test. They also found Form 2 to be biased against boys. Due to the lack of individual tests available at the time for individual administration for the early stages of reading, it was decided to use the Neale's Analysis of Reading Test. It can be argued that as children are only to be compared with each other within the sample, the issue of standardisation is less important than the necessity of having a reading score in this empirical study.

2.80 Assessment of child's ability to cope with school

It has been shown in Chapter 1 that the child's ability to cope with the discontinuities of the new school situation will inevitably affect learning. "Readiness is necessary for success" Austin and Lafferty (1968) indicates the 'readiness' as a manifestation of social and emotional maturity being the measure of coping ability.

The *Thompson School Adjustment Questionnaire* (Appendix 1) was used as a measure of this ability. The class teacher completed the questionnaire form six weeks after the child had been in school. A full discussion of the formulation of the questionnaires is in 1.70.

2.90 Issues regarding the decision to combine data from Year 1 and Year 2 of the collection

The data were collected within the first three weeks of the children's entry to school in September 1987 and 1988, in 32 classes, in 16 different schools. Seven children were aimed for in each class in the first year of the study, and ten in each class in the second year, except in the vertically grouped classes, where the numbers in reception were small and all children were automatically tested. There was some attrition. The protocol of collection is described in 2.50. Data were also collected at the end of the children's first year of school in July 1988 and 1989. The reason for the two waves of data collection was a practical one. Data were collected within the first and last three weeks of the academic year. The results of the data collected through 1987/88 (Year 1 - 123 children) and 1988/89 (Year 2 - 68 children) were analysed both separately and together. In order to test the comparability between the entry skill scores of the two cohorts in Year 1 and Year 2 t-tests were computed. If a significant difference were to occur it would be deemed more appropriate that the data be analysed separately for each year.

Table 2

(n = 191)

Comparisons between Entry Scores of Year 1 & Year 2

t Tests between Entry Scores of Year 1 and Year 2

Variables Entry Scores	N	Mean	S.D.	T. Value	P
BOEHM 1					
1987	123	20.46	3.8	0.81	0.420
1988	68	19.97	4.1		
Concepts-about-print					
1987	123	6.18	2.86	-1.11	0.268
1988	68	6.65	2.77		
British Picture Vocabulary Scale					
1987	123	102.32	15.19	-0.88	0.378
1988	68	104.18	13.17		
Name (Ability to write)					
1987	123	12.94	6.95	1.82	0.071
1988	68	11.04	6.99		
Alphabet (Knowledge)					
1987	123	8.79	9.67	-1.12	0.263
1988	68	10.66	11.71		

Table 2 (continued)

Table t. Tests Between Entry Scores of Year 1 and Year 2

Variables Entry Scores	N	Mean	S.D.	T. Value	P
Draw-a-Man Test					
1987	123	59.00	11.35	-0.49	0.624
1988	68	59.79	10.33		
Estimation of how well child is settled into school	123	20.58	6.37	-0.21	0.827
	68	20.78	5.96		

Of all the entry skills - ability to write name was the only one to be approaching significance. The t tests between entry skill scores did not reach significance and it was therefore decided that it was appropriate to pool the data from the two years of collection.

The results of the analyses of part one of the study will be presented in Chapter 3 in the following order:

1) The range and diversity found at school entry of the skills related to literacy and the measures of intellectual functioning;

2) The power of the entry skills to predict success in reading by the end of the first year of school;

3) The strength of relationship between the entry skills and reading at the end of the year both independently and in conjunction with each other;

4) The characteristics of those children reading by the end of the year.

CHAPTER THREE

Results of Part 1 of the study

A Cry For Help

"I can't write those words," said a preschooler. "Thoses are schoolgirls' words. You write them down"

The Hard Bits

Mother: You're a super reader.
Child: It's not really easy.
Mother: Why?
Child: The big words are easy but the little words are hard.

Marie Clay (1993)

CHAPTER THREE
Results of Part 1 of the study

CHAPTER THREE

3.10 **Results of Part 1 of the study**

This chapter will report the results of the data analysis in the following order:-

i) the descriptive data of the whole sample

ii) results of entry skills individually reported

iii) the inter-correlation of entry skills

iv) the inter-correlations of exit skills

v) the Pearson correlation co-efficients between entry skills and reading score by the end of the first year of school

vi) regression analyses exploring relative contributions of entry skills to reading when considered jointly

vii) progress in reading

viii) discriminant analyses predicting whether children can be grouped as readers or non-readers from their entry skills

ix) exploration of the characteristics of the two groups, readers and non-readers

3.11 **Descriptive details of the pooled data collection over academic years 1987/88 and 1988/89**

Mean scores were computed over the whole sample for each of the assessment measures at pre-test (September) and those for which there was a post-test (July) carried out. A range of functioning at school entry was indicated across the instruments (see Table 3) with the widest variety being demonstrated in the Neale's Analysis of Reading Test and alphabet knowledge in the reading and literacy related measures, and in the Draw-a-man test.

TABLE 3

Mean scores of the pre-test (entry skills) and post-test (exit skills) over the whole sample

n = 191

Test		Pre-Test (entry skills Sept '87/'88)	Post-test (exit skills July '88/'89)
BOEHM Test of Basic Concepts Booklet 1	Mean	20.28	22.64
	SD	*3.96*	2.58
	Min.	5	8
	Max.	25	25
	Range	20	17
BOEHM Test of Basic Concepts Booklet 2	Mean		15.85
	SD		4.28
	Min.		4
	Max.		23
	Range		19
B.P.V.S. British Vocabulary Test	Mean	11.78	14.39
	SD	*3.07*	7.88
	Min.	5	6
	Max.	21	27
	Range	16	21
Concepts-about-print	Mean	6.35	10.25
	SD	*2.79*	2.40
	Min.	0	3
	Max.	12	12
	Range	12	9
Alphabet Knowledge	Mean	9.45	14.59
	SD	*10.45*	7.88
	Min.	0	8
	Max.	26	26
	Range	26	18
Ability to write name	Mean	12.27	
	SD	*7.00*	
	Min.	0	
	Max.	25	
	Range	25	
Draw-a-man test	Mean	59.28	
	SD	*10.97*	
	Min.	30	
	Max.	96	
	Range	66	
Neale's Analysis of Reading	Mean	.754	6.14
	SD	*3.5*	8.68
	Min.	0	0
	Max.	31	31
	Range	31	31
Thomson School Adjustment Score	Mean	20.64	
	SD	*6.21*	
	Min.	13	
	Max.	44	
	Range	31	
Age	Mean	60.15 (months)	
	SD	*3.50*	
	Min.	49 (months)	
	Max.	68 (months)	
	Range	19	

3.20 The literacy related skills at school entry and at the end of the year

3.21 BOEHM Test of Basic Concepts

See 2.63 for discussion in reasons for using this test.

Form A, Booklet 1

The high mean score of 20.2 with little variation between the scores (S.D. 3.9) reported in Table 3, and the frequency table (Appendix 5) indicates that 60% of the sample scored 20 and over, out of a maximum of 25 points. Although the manual indicates that this test was developed for use with five year olds, the skewed distribution of the scores shows that many children had reached the test ceiling and clearly should have been tested with Booklet 2 also. However, due to the battery of the assessments, and the distractibility of the children (many of whom had been in school only a few days) it was not possible to administer Booklet 2 in the one testing session. Resources did not allow for a return visit to the school. This decision proved to be unfortunate given the predictive power of the BOEHM test of Concepts in the regression analyses.

3.22 British Picture Vocabulary Test (short form)

In contrast with the BOEHM test the BPVS raw scores demonstrate a very wide range of verbal functioning of 5 to 21 points (S.D. of 3.07). The children at the lower range of receptive vocabulary demonstrated an understanding of simple nouns such as bucket and dog. Those at the top of the range were able to show understanding of adjectives, such as floral, for example. The frequency table can be found in Appendix 6. Age adjusted scores would suggest that the least able child had a score of 67 and the child with the widest vocabulary range had a score of 167.

3.23 The Draw-a-Man Test

This test, it will be remembered from 2.54, was used primarily to settle the children down before the testing, the psychometric measure was of a secondary consideration. The 'game' aspect of the testing was emphasised when a new pack of bright felt pens

were offered to the child to draw a picture of herself. A broad range of functioning was demonstrated by some children barely managing a potato shape (for distribution see frequency table in Appendix 7) with eyes and a mouth scoring a mental age of 3 (see Figure 6 in Appendix 24) to the other extreme of a very detailed figure drawing scoring a mental age of 7 years (see Figure 14 in Appendix 24). Further examples of the drawings are in Appendix 24 in order to clearly demonstrate the diversity within the sample.

3.24 Concepts-About-Print Test

The majority of the children had some of the understandings about the conventions of print (see Table 3). Four children scored 0 and six out of the 191 scored the maximum of 12 points. Five of the second group were scoring on the Neale's Analysis of Reading at the point of school entry. The frequency table can be found in Appendix 8.

3.25 Identification of the letters of the alphabet

In Year 1 the children were tested on whether they knew either names or sounds of upper and lower case letters. In Year 2 it was decided to calculate separately whether they knew letters or sounds, in an attempt to shed light on which is most predictive of success in learning to read.

In Year 1 in September 1987 25% of the sample knew no letters of the alphabet, neither names nor sounds while 15% knew 26 letters (either names or sounds). The mean score was 8.7 letters.

In Year 2 in September 1988 23% of the sample knew no names of the alphabet and 75% knew no sounds. However, 10% knew all the names, 1.5% knew all their sounds. The mean scores were 7.9 letter names known and 2.7 letter sound known. It was decided that so few children knew sounds that no conclusions regarding the predictive value of sounds, compared with names of the alphabet, for reading could logically be made. The two scores were combined to match Year 1 for the mean scores (Table 3) and correlation matrix of the whole sample of 191 Table 4. For frequency tables see Appendix 9 indicating the distribution.

3.26 Ability to Write One's Name

The range of functioning indicated that 4% of the children were unable to either write or copy their first name. Still 9% of the children were able to write both their first name and second name. The mean score of 12.7 (see Table 3), indicates the ability to write one's first name on entry to school. The frequency table in Appendix 10 shows that nearly 16% of the children arrived at school able to do this and a further 54% were able to write more than first name i.e. part or all of their family name also.

3.27 The Neale's Analysis of Reading Test

The Neale score is the main outcome measure of Part 1 of the study. The reasons for using a standardised test are discussed in 2.70.

Five children were reading well on entry to school with a spread of reading age from 7 years 8 months to 8 years 3 months. (See Table 3 and details of frequency in Appendix 11). There were also 186 children who were not scoring on the Neale test.

3.28 Thompson 'Settled into School' Questionnaire Completed by Class Teachers in November 1987 and 1988

The distribution of scores is shown in the frequency table (Appendix 12). It shows that 64% of the children had a score of 20 (the mean), see Table 3, and below which indicates that they are settled well into school. (The lower the score the better adjusted to school.) A further 29% had a score between 20-30 which indicates that the child is beginning to settle with some lapses in insecurity. Only 8.3% of the children were not settled after 6 weeks in school with ratings such as "Is not settled at all well, is unhappy or unwilling to stay in school" and "Usually lacks concentration e.g. concentrates for a few minutes only, easily distracted".

3.30 The relationships between the entry skills

In order to investigate the strength of the relationships between the scores of the individual entry skills Pearson correlations were computed. The data were normally distributed and parametric analyses were used throughout this research.

TABLE 4

Matrix of inter-correlations of entry skills

(Tested September 1987 and 1988)

n =191

	B.P.V.S.	CAP	NAME	Draw-a man test	ALPHABET	SETTLED
BOEHM test of Basic Concepts Booklet 1	.53 **	.53 **	.45 **	.45 **	.38 **	- .48 **
B.P.V.S. British Vocabulary Score		.29 **	.26 **	.31 **	.29 **	- .21 *
Concepts about print			.42 **	.37 **	.37 **	- .41 **
Ability to write name				.46 **	.46 **	- .40 **
Draw-a-man test					.26 **	- .30 **
Knowledge of the Alphabet						- .30 **
Age	.18 *	.05 n.s.	.31 **	.09 n.s.	.05 n.s.	.004 n.s

Levels of significance ** p< 0.001 * p< 0.05

3.31 The inter-correlations of entry skills

The BOEHM test of basic concepts as an indicator of intellectual maturity has the strongest consistent pattern of relationship with the other entry skills (see Table 4). Given that so many children were at the ceiling of the test this is surprising and adds further weight to the necessity of using Booklet 2 at the school entry pre-testing. The other verbal measure, the B.P.V.S. as a test of receptive vocabulary is not as strongly related to the literacy related entry skills. Considering other studies and given the spread of the scores this was a surprising finding.. The inter-correlations of the three pre-literacy measures, concepts about print, knowledge of the alphabet and ability to write one's name, are all positively related at the r=.4 and r=.3 levels.

How old the child is at school entry is not related to how developed her reading skills are with one exception. The only positive relationship exhibited on the matrix is that of between age and ability-to-write-name which correlates at r=.3 ($p< 0.001$).

3.40 The relationships between the individual skills at the end of the year

In order to investigate the strength of the relationships between the scores of the skills assessed at the end of the first year of school, Pearson correlations were again computed.

TABLE 5

Inter-correlations of post-test scores (exit skills) assessed in July 1988/89

n = 191

	B.P.V.S.	ALPHABET	C.A.P	NEALE'S ANALYSIS OF READING
BOEHM test of Basic Concepts Booklet 1	.21 *	.28 **	.45 **	.28 **
BOEHM test of Basic Concepts Booklet 2	.17 *	.37 **	.49 **	.48 **
B.P.V.S. British Vocabulary Scale		.45 **	.05 n.s.	.0859 n.s.
Alphabet Knowledge			.45 **	.42 **
Concepts about print				.46 **
Age	.18 *	.03 n.s.	.22 *	.20 *

Footnote: BOEHM Test of basic concepts (Booklet 1) has a ceiling effect
Significance levels ** $p< 0.001$ * $p< 0.05$

3.41 The inter-correlations of the exit skills

The ceiling effect of BOEHM 2 (i.e. the post test of the Booklet 1 - see frequency table Appendix 13) affects the correlation between the BOEHM 2 and NR.2 (Neale Raw Reading score) and the literacy related skills of alphabet knowledge and concepts about print (See Table 5). Although still positively related intellectual maturity has not as strong a relationship with the literacy related skills in the July as in the pre-tests in September. Receptive vocabulary (BPVS 2) is more positively correlated with

knowing the alphabet at the end of the school year than at the beginning. Frequency tables for BOEHM 3 and BPVS 2 are in Appendices 14 and 15.

The positive correlations between reading and concepts about print and knowledge of the alphabet are prevented from being still stronger by ceiling effects of these measures (see frequency tables Appendices 16, 17 and 18). How old the child is at school entry has little effect on the child's progress in reading.

3.50 The entry skills that predict reading at the end of the year

In order to establish which of the entry skills has the strongest relationship, individually, with reading at the end of the year, the Pearson Correlation Co-efficients were computed between the entry skills scores and the raw score of the post-test Neale's Analysis of Reading. The details are reported in Table 6.

3.51 The correlation between entry skills and Neale's Analysis of Reading score

All the pre-test measures are positively related ($p<0.001$) to reading at the end of the year. Most interesting of all the findings is that the extent to which the new school pupil can identify letters of the alphabet has the strongest correlation ($r=.6$) with reading the following July. This is not a new finding, but seems to be not as established in the consciousness of teachers (Chapter 6) as this study and the extensive Infant School Study might suggest that it should. Ability to write her name is the next single most powerful predictor. Both these at school entry indicate a refined and sophisticated awareness of orthography.

The child's awareness of the conventions of print seems on these analyses to have a weaker relationship with reading than her intellectual maturity and how well she settled into school. This will be discussed fully in Chapter 7 but suffice it to say that the concepts about print test used in this study indicated the narrowest range of functioning of all the skills assessed. In other words the test may not have been sufficiently discriminating particularly of the more advanced understandings of the conventions of print, such as metalinguistic awareness.

Table 6

Pearson Correlation Co-efficients between Entry Skills and the Reading Score at the end of the First Year of School

Pre-test/Entry Skills Measured in September on School Entry	Raw Neale's Analysis of Reading Score (July)
BOEHM 1 Concept Development test	r= .41 *
Concepts About Print 1	r= .34 *
British Picture Vocabulary Scale	r= .37 *
Alphabet knowledge 1	r= .60 *
NAME (Ability to write name)	r= .57 *
Drawman (Draw-a-man test)	r= .33 *
Settled (into school)	r= –.47 *
Age	r= .27 *

* $p < 0.001$

NB: The Settled Score is calculated inversely in that a low score indicates better adjustment to school. Therefore a positive relationship is indicated with a negative correlation.

3.60 Multiple regression between the entry skills and reading at the end of the year when considered jointly

Pearson correlation co-efficients shed light on the strength of the relationship between the individual entry skill variables and the outcome measure of ability to read as assessed by the Neale's Analysis of Reading. Stepwise regression was used in order to assess the independent contributions of each of the predictor variables to reading

ability at the end of the year. The raw correlations reported in previous sections showed that many of the entry variables were inter-correlated and it would therefore be useful to establish whether some of these variables are redundant.

The variable alphabet knowledge was selected first, having the strongest correlation with reading ability, and it accounted for 39% of the variance. The variable selected second in the analysis was ability to write name which contributed a further 5% to the variance when taken jointly into consideration with BOEHM 1 (BOEHM Test of Basic Concepts, Booklet 1), Concepts-about-print, BPVS 1, Draw-a-man test, Settled (into school), and age (See Table 7).

The variance contributed by alphabet knowledge and ability to write name were the only two variables with F. levels that reached significance.

Table 7

Multiple Regression: Method Step-wise

Dependent variable = NR2 Neale Reading (July post-test)

n = 191

	Variable	R. Square	F. Change	
Step 1	Alphabet Knowledge	.39	122.41	p<0.001
Beta Value .6269				
Adjusted R. Square .389				
Step 2	Ability to write name	.05	17.75	p<0.001
Beta Value .2578				
Adjusted R. Square .44				

See Appendix 19 for full table of Beta Values.

3.61 Further investigation into the relative power of the predictor variables

After the step-wise multiple regression in which the SPSS programme computes the percentage of variance of the most influential entry skills (from a pre-selected menu), a forced regression analysis was conducted. The relative predictive power of the

literacy related entry skills with reading ability was further explored. The amount of variance contributed by concepts about print was of particular interest in this study, given that knowledge of the alphabet and name had proved to be so important in the step-wise regression. In line with the findings of other studies the measures closely correlated with intellectual functioning were entered into the programme first (see Table 8). The pre-test of the BOEHM, accounted for 9% of the variance, when BPVS was entered it added only a further 2% and with an F. level significant at the $p<0.05$ level.

The other significant finding was that of the literacy related predictor variables, concepts-about-print contributed 3% of the variance when entered before Alphabet Knowledge and Ability to write own name.

The amount of the contribution that understanding the conventions of print added to the variance was interesting. Its positive relationship with reading is further indicated by five of the six children at the ceiling on the concepts about print test at school entry were also scoring on the Neale's Analysis of Reading Test. It is a powerful and significant contributor to being able to read by the end of the school year. The validity of the concepts about print test used in this study in relationship to these findings will be discussed in Chapter 7.

Table 8

Multiple regression: Method Forced

n = 191

Method: forced
Dependent Variable - Neale Analysis of Reading score (post-test July)

	Variable	R. Square	F.Change	
Step 1				
Beta value .3037	BOEHM	.092	19.21	p<0.001
Adjusted R.Square .09				
	Variable	R. Square	F.Change	
Step 2	B.P.V.S.	.02	4.50	p<.03
Beta value .1718				
Adjusted R. Square .10				

Table 8 (continued)

	Variable	R. Square	F.Change	
Step 3	Concepts about print	.03	6.53	p<0.05
Beta value .2034				
Adjusted R. Square .13				

	Variable	R. Square	F.Change	
Step 4	Alphabet knowledge	.27	83.4	p<0.001
Beta value .5740				
Adjusted R. Square .39				

	Variable	R. Square	F.Change	
Step 5	Name	.05	15.24	p<0.001
Beta value .2581				
Adjusted R. Square .44				

	Variable	R. Square	F.Change	
Step 6	Settled	.01	3.993	p<0.05
Beta value				
Adjusted R. Square .45				

The R. Square, after BOEHM, BPVS and Concepts-about-print had been accounted for, was 4%. Then step 4 - knowledge of the alphabet added a powerful further 26% making up the R. Square to 40%.

Even when entered in fifth, ability to write ones name still contributed a significant 4% to the variance accounting for success in reading. How well the child has settled into school when entered sixth added a further 1% with a significant F. level at p<0.05.

The literacy related entry skills contributed 32% of the 46% R. Square by the end of the analysis. Full table of Beta values can be found in Appendix 20

3.62 The relationship between the post-test measures and reading at the end of the first year of school

The strength of the relationship between intellectual abilities and literacy related skills with reading ability when assessed at the end of the year, was investigated. The intention was to find out if, those variables found to be powerful in predicting success in reading at school entry, were still closely related when assessed at the end of the year. Despite only 54% of the children scoring on the Neale's Analysis of Reading all of them had made progress on the literacy related skills (see frequency tables in Appendices 15, 16, 17, 18a & b). Over half of the children, 55%, now knew all the twelve concepts-about-printed tested in this study and 31% knew all their letters of the alphabet. A further 14% knew all the letter names and some sounds (that is 45% had a thorough knowledge of the alphabet).

A step-wise multiple regression was carried out on the post-test variables BOEHM 2 and BOEHM 3 (BOEHM Test of Basic Concepts, Booklets 1 & 2), Concepts about Print 2, BPVS 2 (British Picture Vocabulary Test), Alphabet knowledge 2 regressed on to the dependent variable NR 2 (Neale's Analysis of Reading) (see Table 9).

BOEHM 3, Alphabet knowledge 2 and Concepts about print 2 were the only 3 significant variables. Multiple regression showed BOEHM 3 as the variable with the most influence on the reading score. Booklet 2, it will be remembered, was the most accurate measure of concept development, as so many children had reached the ceiling on Booklet 1 in both the pre-test and the post-test (see Appendices 5 & 13). It accounted for 23% of the R. Square. Knowledge of the alphabet was the next significant variable adding 6% of the variance. Understandings about the conventions of print contributed 3% of the variance with a significant $p<0.05$ F Level. As with the predictor variables at the beginning of the year knowledge of the alphabet is strongly related to being able to read but concepts about print remains positively related, despite 105 children being at ceiling with their scores.

TABLE 9

Step-wise regression of exit skills on Neale's Analysis of Reading Score

(July assessment)

n = 191

	Variable	R. Square	F.Change	
Step 1	BOEHM	.23	56.57	p<0.001
Beta value .4799	(Booklet 2)			
Adjusted R. Square .23				
	Variable	R. Square	F.Change	
Step 2	Alphabet	.07	18.47	p<0.001
Beta value .2822				
Adjusted R. Square .29				
	Variable	R. Square	F.Change	
Step 3	Concepts-about-print	.03	8.95	p<0.005
Adjusted R. Square .32				

Two forced multiple regressions were carried out. They were computed to establish the relationship between particular literacy related skills at the end of the year and reading (see Table 10).

TABLE 10

Forced multiple regression of exit skills on Neale's Analysis of Reading Score
(July assessment)
n = 191

	Variable	R. Square	F.Change	
Step 1	BOEHM	.08	16.92	p<0.001
Beta value .2866	Booklet 1			
Adjusted R. Square .08				

	Variable	R. Square	F.Change	
Step 2	BOEHM	.15	36.21	p<0.001
Beta value .49	Booklet 2			
Adjusted R. Square .22				

	Variable	R. Square	F.Change	
Step 3	B.P.V.S.	.00003	.0081	n.s.
Beta value .0060				
Adjusted R. Square .22				

	Variable	R. Square	F.Change	
Step 4	Alphabet Knowledge	.08	22.51	p<0.001
Beta value .34				
Adjusted R. Square .29				

	Variable	R. Square	F.Change	
Step 5	Concepts about print	.03	7.79	p<0.005
Beta value -.13				
Adjusted R. Square .32				

The variables were entered into the programme with the same rationale used with the regression carried out on the predictor variables and NR 2 (3.61). BOEHM 2 and 3 account for 23% of the R. Square and as at the beginning of the year BPVS makes no

significant contribution to the equation. Alphabet knowledge when added fourth still accounts for an important 8% of the variance and concepts about print adds another 3% to the 34% R. Square. How able the child is as measured by the BOEHM appears to have the strongest relationship with ability to read at the end of the year.

In order to assess the power of the literacy related variables when BOEHM was put into the equation later a forced regression analysis was carried out with the variables entered in the following order - BPVS 2, Alphabet knowledge, Concepts about print, BOEHM 2 and BOEHM 3. (For full table see Appendix 21).

Even when entered first BPVS 2 still does not make a significant contribution. Alphabet knowledge in this analysis accounts for 18% of the variance and concepts about print a further 8% of the 27% R. Square.

In all three of these analyses it has been demonstrated that the two literacy related skills are pre-requisites of learning to read. A detailed discussion of this will follow in Chapter 7 together with a consideration of the sequence of their development.

3.70 Progress in reading in the first year of mainstream school

As assessed by Neale's Analysis of Reading, five children were reading at the beginning of the year. (The full details of the distribution can be found in Appendix 11.)

Children came to school with a range of literacy related skills, Knowledge of the Alphabet, Ability to Write their Name and Concepts-about-Print, of which, Alphabet Knowledge and Ability to Write own Name are most powerful predictors of reading at the end of the year.

By the end of the year 46% of the children were still not reading well enough to score on the Neale's Analysis of Reading Test. Many were able to read some words, and all had made progress with the literacy related skills of concepts-about-print, knowledge of the alphabet and ability to write name.

The five children who were reading at the beginning of the year made the following rates of progress.

TABLE 11

Progress of children reading at school entry

n = 5

Child	September	Neale's Analysis of Reading Score	July
7	7.0		9.00
12	8.00		9.00
14	9.2		9.2
18	7.0		8.4
31	7.3		8.1

This group of children made an average 12 months progress in reading in the 10 month period between assessments. One child made an astonishing two year gain. Even the least impressive progress gain was 10 months, in line with the actual time span of data collection.

3.80 Issues concerned with the effect of the reception class teacher on reading during the year

As there was no measure devised for the teachers in this study it was not possible to investigate through multiple regression analyses the extent to which the teachers through their intervention were affecting the progress on the children.

Other statistical techniques, more sophisticated than multiple regression such as multi-level modelling (Goldstein, 1987) are often recommended. Multi-level modelling is able to include information on different levels of influence on progress e.g. class, school and L.E.A. Multi-level modelling allows for an expected score for the child to be calculated from her entry skill scores and a comparison made as to whether an individual is achieving more or less than what might be expected. The gap between predicted score and actual score can then be attributed to an external influence such as the child's parents or the teacher. However, the small number of children assessed in some of the classes did not meet the conventions of multi-level modelling.

3.90 Predicting whether children will be reading at the end of the year from their entry skills

Further analyses were conducted in order to establish through a re-test how accurate it proved to be classifying children based on the variables previously shown to be predictive in earlier analyses.

Discriminant analysis was used to predict statistically which individuals would be categorised as readers or non-readers by the end of the year. The first stage of the analysis found a function of the chosen independent variables which will best predict group membership. The sample was divided into two groups reading and non-reading (Group 1 - non-readers, Group 2 - readers) by their Neale's Analysis of Reading Scores.

TABLE 12

Canonical Discriminant Function Co-efficients

n = 191

Alphabet knowledge 1	0.64204
Settled	-0.14796
Ability to write name	0.45209
B.P.V.S. 1	0.24193
Concepts about print 1	-0.01458
BOEHM 1	0.08526
Age	0.26163

In Function 1 it is demonstrated that knowledge of the alphabet and ability to write name have the highest values. Therefore whether or not an individual has knowledge of the alphabet or able to write her name are the most predictive entry skills for membership of the reading group by July.

The discriminant function co-efficient maximises the difference between the two groups. In order to predict which group an individual can be predicted to be in by the end of the year the Alphabet knowledge score is multiplied by .64204 (See Table 12).

TABLE 13

Pooled within-groups correlations between discriminating variables and canonical discriminant functions

n = 191

(Variables ordered by size of correlation within function)

Alphabet Knowledge 1	0.73865
Ability to write name	0.69848
BOEHM 1	0.46942
Concepts about print 1	0.35632
B.P.V.S. 1	0.34407
Age	0.27746
Settled	-0.13057

Canonical Discriminant functions evaluated at Group means

Group 1	-1.00670	(non-readers)
Group 2	.87840	(readers)

These two mean scores indicate wide variation and suggest that classification of cases to group membership is very clear. The Wilks' Lamda statistic determines the significance level between the two means at $p<0.001$.

TABLE 14

Actual group and predicted group membership through canonical discriminant function scores

n = 191

Actual Group	No. of cases	Predicted group membership	
		1	2
Group 1 (non-readers)	89	73 82.0%	16 18.0%
Group 2 (readers)	102	19 18.6%	83 81.4%
Percent of 'grouped' cases correctly classified			81.68%

The discriminant analysis indicates that 81% of the cases were correctly classified. In other words using the discriminant function of the entry skill variables the analysis predicts with more than 80% accuracy whether children will be readers or non-readers by the end of the year. The 20% of 'misplaced' individuals may be accounted for by a teacher or home effect that caused them to either under- or over-achieve. The misplaced group may not be as large as 20% due to the artificiality of the stark cut-off point on the Neale score. Adhering to the stipulations of the scoring system necessitates that those children with 16 errors on the passage of text score 0 and therefore are deemed as not being able to read. The crudity of this scoring technique is parsimonious in the extreme when placing children into two discrete groups of readers and non-readers. This issue will be addressed in Chapter 7.

3.91 Characteristics of the two groups of readers and non-readers

By the July assessment 46% of the children were not scoring on the Neale's Analysis of Reading. Of the 54% who were scoring, the children demonstrated a range of reading ages varied between 5 years 9 months to 9 years 2 months (see Appendix 18a for frequency table).

In July 55% of the children were now in possession of the twelve concepts about print and 45% of the children knew the letter names of the alphabet. Both these variables correlate with reading r=.4 level $p<0.001$. The readers are likely to now know all their alphabet letters and possess the concepts about print.

Several earlier studies had found that children who could read had wider vocabularies.

A t test between the BPVS scores of the readers and non-readers did not indicate any difference between the two groups.

TABLE 15

t-test between the B.P.V.S. scores of the readers and non-readers

n = 191

	Number of cases	Mean	T. Value	
Group 1 (non-readers)	89	2.0674		
Group 2	102	2.4804	- 1.08	p.282

Contrary to other studies whether a child is reading at this level is not related to vocabulary extension in this study. This may be due to the fact that focus was on children in their first year of school and who might, at best, have been reading for a few months only, by the July.

3.92 The distribution of the two literacy related skills concepts about print and alphabet knowledge in the sample

The extent to which children might possess either one predictor entry skill or the other and be reading successfully by the end of the year was examined. A cut off of one point below the mean score on both Alphabet knowledge and concepts about print was employed. High concepts about print (i.e. scoring 5 and above) and low alphabet knowledge (1-8), was contrasted to low concept about print (< 5) and high alphabet knowledge (> 8) (see Table 16).

Sixty out of 65 children with high entry skills on both alphabet knowledge and concepts about print were reading by the end of the year. This is in line with the other analyses. It might be argued that this matrix provides insight on the order in which children acquire these skills. Whilst it is possible to come to school with a relatively high score in alphabet knowledge and lower concepts about print score, it is much less likely as only 11 children out of 191 were in this category.

A McNemar's test indicated that there is a statistically significant (at $p<.01$ level) difference between the number of children who at school entry possess high concepts about print and low alphabet knowledge rather than the reverse.

TABLE 16

Distribution of concepts about print and alphabet knowledge at school entry in the sample

n = 191

High concepts about print Low alphabet knowledge		Low concepts about print High alphabet knowledge	
75		**11**	
Number scoring on Neale's analysis of reading **27**	36%	**8**	73%

High concepts about print High alphabet knowledge		Low concepts about print Low alphabet knowledge	
65		**40**	
Number scoring on Neale's Analysis of Reading **60**	92%	**20**	50%

The percentages of children reading by the end of the year in the respective groups adds strength to the argument of the value of knowing one's alphabet on entry to school, as also indicated by earlier analyses. The cut-off point method of group selection is somewhat arbitrary a low alphabet score may mean only 2 known letters less than a high score. However, it does seem from the numbers, over the 191 children, that to have a high alphabet score and low concepts-about print score is so very much less likely (only 6% of the sample). It is also statistically unlikely to have happened by chance. An understanding of the way that books and print work it might be argued is an earlier acquisition than the ability to label letters of the alphabet. This will be elaborated upon in Chapter 7.

3.93 The extent to which settling into school is related to success in reading

The categorisation of children by their score in the Thompson settled into school questionnaire and its relationship with reading was carried out (see Table 17).

TABLE 17

The effect of being settled into school on reading ability by the end of the year

n = 191

	Non-Readers	Readers
Very settled	16 (8%)	48 (25%)
Settling	45 (23.6%)	47 (24.6%)
Un-settled	28 (14.7%)	7 (3.7%)

Of the 18% of children who were still unsettled after six weeks in school only 7 of them were reading at the end of the year. Of the 33% of children settled well into school, 48 of the 64 were scoring on the Neale's Analysis of Reading Test in the July. Settling well in school appears to be very highly related to reading by the end of the year. A chi-square was carried out to examine whether the group differences reached significance or whether the differences could have happened by chance (see Table 18).

TABLE 18

Chi-square to determine the significance level of the group differences

n = 191

	Non-Readers	Readers	
Very settled 1	16 (8.4%)	48 (25.1%)	64 (33.5%)
Settling 2	45 (23.6%)	47 (24.6%)	92 (48.2%)
Un-settled 3	28 (14.7%)	7 (3.7%)	35 (16.3%)
	89 (46.6%)	102 (53.4%)	n=191 (100.0)

Chi-Square	D.F.	Significance
27.88785	2	p<0.001

Cells with E.F.
None

Table 18 indicates that there is a statistically significant difference between those groups of children settling into school and those not so well adjusted and their success in reading by the end of the year.

Summary

Chapter Three has examined the diversity of intellectual maturity and reading related skills within a sample of children entering school in September 1987 and 1988. The relationship between these skills, abilities and understandings and reading by the July was also examined.

The ability to identify the letters of the alphabet, and write their name at school entry were found to be the most powerful of all the literacy related skills to predict success in reading by the end of the year. The strength of the association was shown in discrete Pearson correlations and when taken jointly in multiple regression analyses. Awareness of the concepts-about-print proves to have an enduring and positive relationship in the analyses mentioned, in addition to which, an indication of the order in which these understandings are acquired appears to be emerging. A McNemar test showed that the relative distributions of concepts about print and knowledge of the alphabet possessed by the individual children and their relationship with reading across the sample, is unlikely to have occurred by chance. These are the most important findings of Part 1 of the study.

Chapter Four will review the literature of Part 2 of the study.

CHAPTER FOUR

The importance of the first year of school

Thinking About Reading

A young reader was being introduced to a book called *The Thin King and the Broth.* He said, 'What's broth?' The teacher didn't tell him, but invited him to think by saying, 'You remember "There was an old woman who lived in a shoe, she had..." 'I know,' he said, 'I know,' and he was still thinking, struggling to grasp the idea he had just discovered and to put it into words. 'Soup!' he cried, as if he has made the exciting discovery of a new word all by himself. The new word was 'broth', and he had been helped to link it to a meaning he already knew very well. Searching the mind for meanings has a great deal to do with reading.

Butler & Clay (1979)

CHAPTER FOUR

CHAPTER FOUR

The Importance of the first year at school

4.10 The positive and long lasting effect of the first year of mainstream school

Research evidence (Donaldson, 1978; Wells, 1985a and 1985b; Hughes, 1986; Tizard & Hughes, 1984) over the last decade and a half has led Donaldson (1989) to write, "...I think that there is at least one belief that all of them (the researchers) would share: the belief that children are highly active and efficient learners, competent enquirers, eager to understand." (p.36) Those studies investigating the pre-school child's functioning demonstrate considerable ability to make sense of spoken and written language, number and the social world in general. There is less evidence concerning the extent to which educators harness this astounding pre-disposition to learn.

There is a small but growing body of findings that show that the early months of schooling are crucial, to both success at school and later adult life. The positive initial experiences for children, as they are inducted into a formal educational system, appears to have a beneficial effect that is enduring.

4.11 Research evidence regarding the first year of school

A study by Pederson, Faucher and Eaton (1978) examined atypical I.Q. changes and identified the long-lasting effects for those children who were taught by one particular and remarkable first-grade teacher. The research methodology was unusual and involved the retrospective analysis of the report cards of an inner-city elementary school in the U.S.A. Utilising the concept of the 'self-fulfilling prophecy' the authors related the effects of the teachers' attitudes and resulting behaviour on the subsequent adult status of their pupils.

One particular teacher Miss A had a positive and statistically significant effect on those she had taught. Whatever the social background and abilities of the children, she endeavoured to provide an initial boost that gave the pupils an advantage throughout both elementary and secondary school.

Two recent studies addressed the reasons why the reception year of school may be more valuable for some children.

4.12 *Curriculum coverage in the first year of school*

The relatively greater progress made in some reception classes can be attributed to the wider curriculum coverage to which some children are exposed. Wells and Raban (1978) in their study monitored children through their first two years of school, found that both attainment and progress in reading were associated with time devoted to curricular rather than to non-curricular activities. In the Infant School Study (1988) only 1/5 of the teachers declared that academic considerations were one of their two main aims. The most important findings were the links between the progress the children made, teacher expectation and coverage of the curriculum. Whilst the pre-school scores explained half of the variation in progress in their top infant test scores, the consistent relationship in the reception year between the teachers' expectations of individual children and the curriculum to which they were introduced, is notable. Those who were declared to be 'a pleasure to teach' and of whom there were high expectations would be introduced to a wider curriculum than other children with similar entry skills. These higher expectations were not influenced by the ability of the children, and permeated the whole school experience for the group. During the reception year, for example, a third of the teachers had not asked any of the pupils in their classes to write a word (other than their own name) without a model. In contrast, a third had introduced the use of word book dictionaries, and had encouraged their pupils to write, at least, a sentence on their own.

This finding is emphasised by Tizard (1993) in support of the argument that the first year of school is potentially a great influence on progress. The correlational evidence indicated that a lower relationship between beginning and end of year scores, could be attributed to the teaching experienced by the children. The changes in the rank order of the pupils is linked to another finding concerning the reception year. The TCRU researchers found that the difference between the mean reading scores in the different schools was greatest in the first year of school. Tizard et al relate this fact to the teachers' aims at this phase at school. This concern regarding efficient teaching is addressed by Wells and Raban (1978) who write that although they found few substantial changes in the relative position of children on any measure of attainment in their study during the first two years of school, they did find "...very considerable differences between teachers in the ways that they organise the children's learning experience and in the strategies they use in dealing with individuals, which are over and above those called for by the children's differing levels of attainment." The researchers add darkly that "it is difficult to escape the conclusion that (the differences) are partly a matter of variation in style of teaching, arising from individual preferences, training and socialisation, but it is difficult to escape the conclusion that

they are also the results of difference in quality of teaching, irrespective of methods adopted." (p.119/20)

In a study focussing on the first year of school and its value, a discussion of the pedagogy of teaching reading is essential.

4.20 Methods of teaching reading

The argument rages on and on regarding the relative merits of different approaches to the initial teaching of reading. The "Great Debate" the term coined by Chall (1967) nearly twenty-five years ago has gone on "well past its bed-time" (Merritt, 1985). As suggested in Chapter 1, pedagogy is linked to the view that one has of the reading process. The two positions are in essence ones of "naturalness" and "unnaturalness" and has been discussed in 1.13. The way that it affects pedagogy has to be made explicit here.

Reid (1993) summarises the "natural" and "radical" position very succinctly. The main assumptions in the radical position seem to be as follows: -

" 1) The spoken language draws on a special kind of innate ability. For normal children teaching is not necessary. The ability seems relatively independent of intelligence. Children discover for themselves how language works, and the learning can thus be described as "natural"

2) Reading is the exact parallel to listening, only in the visual mode. The special learning ability will also work for reading as children are exposed to written language and given clues about meaning. Thus learning to read is also 'natural'.

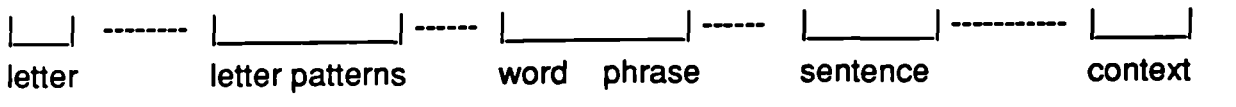
3) The systematic teaching of letter-sound correspondences is a distracting interference with those 'natural' learning processes, in that it fragments a process that must remain 'whole'.

4) The key to fluent reading is not word recognition but the use of strategies such as forming 'hypotheses', predicting (also called guessing/expecting/anticipating) and the selecting of maximally 'productive' cues to confirm meaning. Those strategies are also the basis of the skilled comprehension of speech. The text as constituted by the reader may not correspond exactly to what is on the page." (Reid, 1993, p.23)

These assumptions are represented in one form or another in the early writing of Goodman (1972 as cited in Donaldson, 1989) and Smith (1971). Goodman writes optimistically that if only teachers would take heed of his work that "...it is entirely possible that within the next decade virtually all children will be learning to read, easily and effectively" (Goodman, 1972, cited in Donaldson, 1989, p.38). This belief has led to the 'minimal teaching movement' (Donaldson, 1989). It has also led to the 'whole language movement' in the United States and to the teaching of reading through 'real books' in the United Kingdom. Clem (1990) diagramatically explains the two different emphases of the extreme positions when teaching reading.

Figure 2

Sequence of Focus in Code - Emphasis Approaches

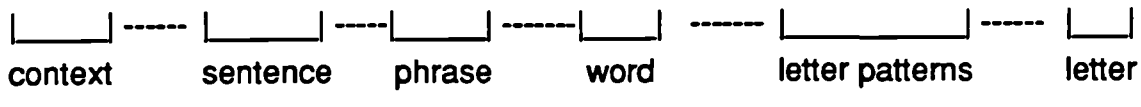


Clem, 1990, p.134

The child's attention is drawn to linking sounds with their letter forms, through code-emphasis approaches which characteristically focus first on the smallest unit.

Figure 3

Sequence of focus in Meaning-Emphasis Approaches



Clem, 1990, p.134

In the meaning emphasis approaches, by contrast, the child is encouraged to focus on the larger units of language, stressing the importance of context and content.

Whilst the meaning-emphasis proponents are usually high on rhetoric and weaker on actual classroom method, where the weakness seems to lie is in the differences between the skilled and beginning reader, as discussed in Chapter 1 (1.12, 1.30, 1.31, 1.32). As Clem (1990) asserts that the basic tenets underlying "whole language" reading fail to provide instruction in the tasks of truly beginning, conventional reading,

the stage on which this thesis is focussed. "...the exclusive initial focus on context and meaning, withholding even causal attention to letter/sound units until the students are totally immersed in the print medium. The assumption that all emerging readers can independently meet the challenges of metalinguistic awareness, segmentation, association - the very foundations of automacity and skilled reading - is the fundamental weakness of the "whole language" position" (Clem, 1990, p.136).

Adams, (1990) does not advocate a return to dry, uncontextualised phonics programmes, rather a combination of both approaches. Reading, it is recognised, in this thesis, is a combination of bottom-up and top-down processes, particularly in the early stages. This is acknowledged by many researchers and authors including Marsh et al (1980), Frith (1980), HMI (1991), Beard (1990), Adams (1990), Dombey et al (1991). The Balance Manifesto (1991) is a call for balance in the teaching of literacy and language skills signed by teachers, academics and writers concerned about the negativity of many arguments put forward in the reading debate over the last few years (Stainthorp, 1992)

Merritt (1985) affirms that word recognition and comprehension are the two reasonable starting points for a teacher seeking to develop reading skills. Much wisdom has been derived from research into the teaching of reading and how best to develop both sets of skills harmoniously so that each aspect facilitates the other.

4.21 Comprehension and links between spoken and written language

Donaldson (1989) and Reid (1993) make explicit the ways that the early teaching of reading skills can capitalise on the human learning that has occurred in the acquisition of speech. Reid describes these as bridges or links to be established.

Shared Reading. The potential value of this activity of adult and child sharing books emanates from the research findings in the emergent literacy phase (discussed in 1.20). The adult first supports the child into spoken language through discussing picture and story, then at a later stage supports the child into the conventions of print and familiarity with book language. Shared reading is currently formalised into reading programmes in primary schools. Adults share books at home, and opportunities exist for books to be shared in school as frequently as possible.

Helping children to produce written language. Adults can help children to be part of the writing process, by their collaboration in the encoding of speech, by writing for the

children and making books with them. The use of commercially produced materials to facilitate writing, such as "Break through to Literacy", can also be of great value. Pre-written words that can be selected and formed into sentences, short circuits the grapho-motor abilities of the very young child to make easier the thought to speech to print link.

Use of print embedded in the environment. Children in the 'logographic' stage of reading development are able to recognise 'Macdonalds' and 'Weetabix' logos in context, through their operations in a print-filled environment. Reid suggests that teaching in schools capitalises on this developing skill and uses print in an embedded form to maximum advantage. Meaningful advantage should be made of labels, instruction cards, notes and letters.

Using the patterns of children's speech. The fourth way to narrow the gap between written and spoken language is to recognise that whilst writing is the means by which speech is made permanent and visible, it is not merely "words written down".

Reid (1958) in her pioneering study found that children, although able to recognise words individually, could not read sentences that were typical of book language and outside their expertise e.g. "Darkness was upon the face of the deep".

Donaldson suggests that the texts with which the beginning readers are presented need to be varied and flexible as to context, but based on the grammatical structure which children commonly use and which they, therefore, expect to find. Meek (1988) speaks of books of this kind being 'crafted' and represent the very best of children's literature.

4.22 Word Recognition

The main requirement for word recognition is a knowledge of letters and how they relate to sounds. For some teachers this is essentially taught as a process of 'word building' - a matter of assembling a set of parts, according to rules, in order to discover that to which the total assembly amounts. For other teachers, children are taught phonic generalisations by encouraging them to look at common elements in word families, analysis rather than synthesis.

Both approaches do not negate the value that comprehension is to word recognition. Merritt suggests that in the early stages of reading the main emphasis of strategies for

word recognition will be on whole word supported by context and its shape rather than on separate letters. He is, it is assumed, linking the whole word to teaching Frith's (1985) logographic stage, and letter/sound (grapho/phoneme) teaching to her alphabetic and later stage of reading acquisition.

Supporting the principles of Reid and Donaldson, Merritt writes of the ways that these two skills are best developed by teachers and parents:- (i) through reading of meaningful, interesting texts and stories, (ii) using the writing of messages, labels and letters for purposeful communications to and for the child, (iii) writing and making of books with and for the child, (iv) through letter games, sound games, letter-sound games, word games and phrase games (if these arise from and through the above activities (i-iii) they are more deeply contextualised for the child).

Merritt concludes "In the case of language and reading skills the context is the child's everyday life experiences. Where the communicative purposes for reading and speech are absent, or largely artificial, they become, to that extent, meaningless activities... For our starting point, then in developing any or all of the reading skills we choose to identify, we must look first at the quality - and range - of each individual child's classroom experiences - minute by minute, week by week, and term by term." (Merritt, 1985, p.122).

4.30 Evidence emanating from studies in reading development in the first years of school

Durkin studied the reading achievement of a group of children who had participated in a two year pre-first grade language arts programme. For each one of the four follow up years, the experimental group made greater progress in reading than the control group.

During the experimental programme Durkin remarked that "... the importance of the teacher was highlighted during the first year when the quality of instruction in the two classes was noticeably different" (Durkin, 1970, p.558).

This teacher effect resulted in a significant difference between the scores of the two classes after the effect of IQ was partialled out. In grade 1 a similar pattern emerged. The teacher effect on reading achievement was examined by analysis of co-variance after intelligence scores had been taken into account. The F ratio was above the $p=<.05$ level. From grade 2 to 4 whilst the experimental group continued to achieve

higher reading scores there was no significant difference between the classes in each group.

Durkin comments sadly, "...While the month of September usually offers hope to educators, September in the Grade 2 year of the research offered immediate disappointment; the 23 children who completed either first level or second level, second grade basal in grade 1 began in grade 2 with a first level second grade reader. Although the use of such a text did not inevitably mean inappropriate instruction, its use combined with such practices as whole-class phonics instruction and little or no allowance for free reading did diminish whatever hope existed for instruction of an appropriate difficulty" (Durkin, 1974-1975, p.29).

The main issue is that Durkin was led to believe that it was not the methods but the lack of match that resulted in the lack of the children's progress. "....It was as if the teachers were unable to assemble a piece of instruction that matched what the children needed to work on." (p.36) Her judgement of the teachers' efficacy was borne out by the end of the year score results. The gain achieved through the experimental programme was not maintained at a level of significance in main stream school.

Figure 4 indicates the continued greater achievement (through non-significant) of the experimental groups through the four grades of elementary school, despite (in Durkin's view) inappropriate reading instruction for children.

Figure 4

Table to show two-way analysis of covariance to compare reading achievement by treatment and sex, with intelligence test raw scores as covariate.

	Cells	Intelligence Test Raw Scores * Achieved Mean	Reading Test Raw Scores Achieved Mean	df	F	P less than
Grade I	14 experimental girls	48.00	172.00	1/72	0.1837	0.6695
	18 experimental boys	45.39	154.89			
	20 control girls	41.40	134.15			
	25 control boys	45.60	138.24			
Grade II	13 experimental girls	47.85	55.08	1/61	0.0172	0.8961
	17 experimental boys	46.24	54.82			
	15 control girls	44.40	49.27			
	21 control boys	45.76	49.67			
Grade III	13 experimental girls	57.23	54.92	1/55	0.5497	0.4617
	17 experimental boys	54.59	50.47			
	15 control girls	54.80	46.33			
	15 control boys	54.53	49.93			
Grade IV (March)	13 experimental girls	57.23	59.46	1/55	0.4613	0.4999
	17 experimental boys	54.59	51.06			
	15 control girls	54.80	46.73			
	15 control boys	54.53	48.53			
(May)	13 experimental girls	57.23	93.85	1/55	0.8300	0.3663
	17 experimental boys	54.59	84.71			
	15 control girls	54.80	80.47			
	15 control boys	54.53	84.00			

* Data for grades 1 and 2 are from the Lorge-Thorndike Intelligence Test, Level 1, Form A, Primary Battery, administered in kindergarten in March. Data for grades 3 and 4 are from the Lorge-Thorndike Intelligence Test, Level 2, Form A, Primary Battery, administered in grade 3 in March

(Durkin, 1974-75, p.46)

In her discussion section Durkin writes "although not formally assessed as being 'ready', subjects in both the control and the experimental groups demonstrated that earlier starts in reading do not lead to problems but, in fact, to very satisfactory accomplishments. That more appropriate instructional programs in grades 1-4 would have augmented what was accomplished is highly likely" (p.46).

4.31 The concept of match

The quality of the child's learning experience in a busy, infant classroom is a multi-faceted, complex issue. Researchers have developed models of classroom learning

experiences which attempt to account for subtle processes of teachers and learners adapting to each other within the classroom environment (Doyle, 1979a; 1979b; as cited in Bennett et al, 1984). Theories of cognition have historically been used to inform teaching methods (Ausubel, 1968; Bruner, 1964; Posner, 1978; as cited in Bennett et al, 1984) without due acknowledgement to the limited resources of the teacher in terms of time and materials (Sullivan, 1967). Concern about the quality of learning experiences for primary children has been repeatedly expressed by reports (HMI, 1978; Anderson, 1981; as cited in Bennett et al, 1984). Large percentages of work asked from the children were not well matched to pupils' attainments. Bennett et al (1984) corroborated this evidence with their study carried out in infant classrooms of 6 and 7 year old children. The researchers found that in only 40% of the tasks was there an appropriate match between the intellectual demand of the tasks and the pupil's attainments.

"The main reasons for teachers failing to implement intended demands are two-fold; poor or misdiagnosis, and failures in task design. Many mismatches in demand occurred because the teacher did not ascertain that the child was already perfectly familiar with task content. Poor or non-diagnosis thus unduly underlay the fact that many incremental tasks actually made practice demands. Task design problems were also relatively frequent. In such cases the requirements for the performance of the task did not match the teacher's intention" (Bennett et al, 1984, p.214).

Detailed observations are not given on the teaching of reading. In this area of the curriculum the close match of teaching to the child's development is emerging as critical (Clay, 1972; 1991; Oakhill, 1993).

4.40 The need of the reception teacher to closely match her teaching of literacy to child's strengths and existing skills

The research findings in the area of emergent literacy suggest the value of sensitive and interested adult support for the young learner (see 1.20). This perspective extends Vygotsky's theories on literacy and learning in general. The stress is on "social interaction between literate adult and the young child, claiming that children acquire literacy through conversations and supported, purposeful engagements in literacy events. Closely tied to this position is the idea of scaffolding in which a more knowledgeable adult supports the child's performance across successive engagements, gradually transferring more and more autonomy to the child." (Sulzby & Teale, 1991, p.730)

Research findings are less evident on the detail of the transition between emergent literacy and beginning conventional reading phases. Work tends to be in the experimental tradition and focussed on the word recognition/processing of text. Less account is taken of what the child is bringing to the situation, as the emphasis of the research is on the competence of the processing of text irrespective of the support being 'top-down', 'bottom-up' or interactive models of the reading process.

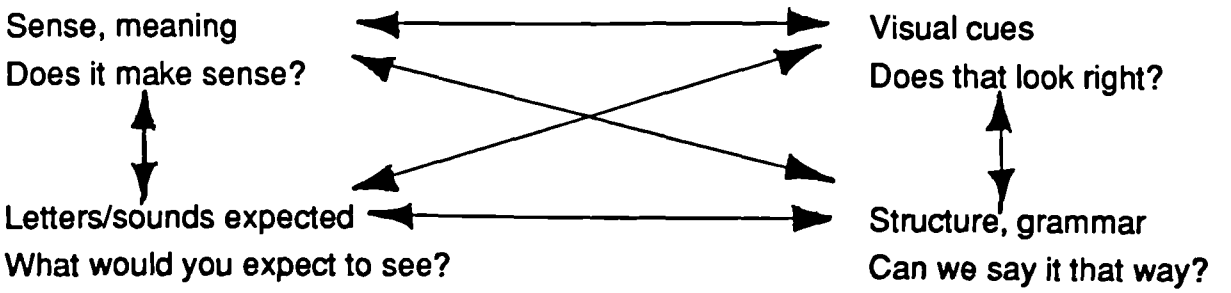
In the way that the research perspective on emergent literacy developed, so the work on beginning reading needs to be addressed. It is known that the success of early readers before school hinged on a combination of the individual's particular attributes and skills matched with effective, tailored teaching (Durkin, 1961; Torrey, 1973; Clark, 1976; Lass, 1983).

Clay (1985) has long promoted close analysis of the strategies of "delayed" readers in order to effectively remedy their confusions and faulty reading behaviours. For almost twenty-five years she has believed that no time should be wasted regarding the teaching of literacy. Clay (1991) states that in the first year of school the reception teacher needs to:

(1) Analyse from overt reading behaviours the skills and understanding of the new school entrant;
(2) Encourage and develop a range of de-coding strategies so that the child extracts meaning from text."

According to Clay's theory of literacy instruction (1972, 1985), all readers, both skilled and inexperienced, have to monitor and integrate information from multiple sources. Readers need to use, and check against each other, four types of cues: semantic (text meaning), syntactic (sentence structure), visual (graphemes, orthography, format and layout) and phonological (the sounds of oral language) (see Figure 4).

Figure 4. Sources of information about text (Clay, 1985)



(Reprinted in Moll, L.C. (1990) p.207)

After a year of instruction, 'high progress' readers in New Zealand classrooms, are able to operate and integrate all these sources of cues. They have arrived at the point of reaching a self-improving system. They improve every time they read. As cue users, writes Clay, these children are able to read with attention focussed on meaning, checking several sources of cues. If higher-level strategies fail, they can engage a lower processing ability and focus on one or another cue source in isolation, such as letter clusters, but also maintaining a directing attention on the text message at all times.

Low-progress readers, on the other hand, operate with a more limited range of strategies. Some of the children rely too heavily on memory without paying attention to visual details. Others guess words from the first, the initial sound, with little regard for meaning (Clay and Cazden, 1990). These children are still operating in the 'logographic' stage of reading development.

The role of the Reading Recovery teacher is to closely analyse the strategies the child is using, make explicit to her what she is doing and support her active interaction with the text.

"...the teacher creates a lesson format, a scaffold, within which she promotes emerging skill, allows the child to work with the familiar, introduces the unfamiliar in a measured way, and deals constructively with slips and errors. The teacher calls for the comprehension of texts and for detection and repair of mismatches when they occur. She passes more and more control to the child and pushes the child, gently but consistently, into independent, constructive activity" (Clay and Cazden, 1990, p.209).

Opinion is moving towards this very precise and diagnostic way of working with all early readers not just for those already slipping behind. In order to explain reading failure Cashdan (1992) stated that "...the selection of methods are not sufficiently diagnostic - in other words, methods are not precisely fitted to the particular child and hence there are too many failures who end up needing special help." (p.233).

The notion of closely matching teaching to child, working one to one appears to be essential in the crucial early stages of transition. Baker and Raban (1991) write of a case study of a child whose progress was monitored from before, through the first few months of schooling. The child's assessment of literacy was taken from measures used by Ferreiro and Teberosky (1982) and the eleven tasks were:-

"1. The formal characteristics a text must possess for reading to occur.
2. The relationship between the text and pictures.
3. Distinguishing between letters and numbers.
4. Distinguishing between letters and punctuation marks.
5. The spatial orientation of text.
6. The relationship between words and pictures.
7. The identification of words in sentences.
8. Do words have to be separate from each other?
9. The effect of transforming words in sentences.
10. What constitutes a reading act?
11. The appropriateness of text to context."

(Baker and Raban, 1991 (p.8) taken from Ferreiro and Teberosky, 1982)

These detailed and increasingly sophisticated tasks aim to probe understanding of conventions of text and print but also hint at the symbolic nature of print (Bialystok, 1991). Lucy surprised her parents by the degree of knowledge that she possessed about reading in the pre-school assessment. After six months, Lucy was again assessed. Reading had been 'taught' at school and she was clearly operating in the 'logographic' stage but was not yet making grapheme-phoneme associations with the words that she met in her Ginn 360 reading scheme books. The researchers analysed the differences between the two sets of observations. The second series indicated changes. There had been some developments of conceptualisation, and the identification of simple words. The depressing aspect of the work seemed to be that there was a notable decline in Lucy's willingness to work for herself on what the text might mean. "The notion that children learning through their own experience, actively trying to understand the world around them, is the key to our understanding of Ferreiro and Teberosky's view of how children learn" (Baker and Raban, 1991, p.11).

It seemed that in the first few months of school the teacher had failed to scaffold the child's developing proficiency and cut across her learning. The school had made no attempt to take account of Lucy's prior knowledge of literacy.

Other examples of mis-match occur in the earlier Wells and Raban (1978) study.
"He had earlier, during the T(1) preparation session for the class, told her that his favourite food was cake, yet he obviously hadn't comprehended the connection between this earlier conversation and what he was supposed to draw. A number of the other children also drew things quite unlike food, an indication of the teacher's scanty and inadequate preparation for this activity with respect to these children.

T(1), in the distance at her desk, neither saw nor heard any of this, and neither did she pick it up on seeing George with his work at her desk. She said nothing about the drawing but simply asked "What was your favourite food again?"

The inadequacy for George, of this style of teaching was further demonstrated after his reply, "cakes", to this latter question. She wrote on his book, "I like cakes best", which she did not read back to George. George therefore returned to his seat to trace over writing which at best he might have thought said 'cakes'. Thus, although it was improbable that George had any idea of the connection between the writing and what he had said, the teacher was not helping him to learn this connection at all.

Further difficulties failed to be detected during George's actual efforts to trace over the teacher's words. To begin with he had little idea of how to hold a pencil correctly, holding it nearly at the bottom and thus, he had no control over the pencil movements whatsoever. The letters he did actually "trace", or rather scribble over, were done in any direction and any sequence, so that the word 'best', which was at the beginning of a line, was started at 't". On showing this work to T(1), however, all she could say was, "good".

Not surprisingly, the session with the observer saw very little improvement in George's work." (p.97) Such examples are a long way from the notion of match Wells and Raban sought.

Clay suggests that "sensitive, systematic observation of behaviour is the only way to monitor gradual shifts across imperfect responding" (Clay, 1991, p.233). The areas that the teacher has to monitor are oral language, awareness of concepts about print, attending to visual information and hearing sound in speech (phonology).

There are other constituent aspects to the process, such as the attitude to books, motivation and concentration. The observation of reading behaviours gives a clear indication of a growing cohesive competence. Children move through the logographic to the alphabetic and perhaps to the orthographic print processing (Frith, 1985) in the reception year of school. "After only one year at school the high-progress child has inner control over the sources of information in print, can manipulate it, cross reference any of them, and can operate with high accuracy and high self-correction rates" (Clay, 1967, cited in Clay (1991) p.235). Integration of the strategies to process print have largely taken place. The reader is now able to progress to higher levels of automacity and speed of comprehension through the self corrective nature of reading widely enjoyable texts.

The gradual and growing control exerted by the child on the system of perceptual and cognitive operations that reading involves is what Clay calls the "construction of inner control" (Clay, 1991).

The precise way the child develops through the three stages of integrated processing and thus in to independent reading is largely unknown (Frith, 1985). Work by Stuart and Coltheart (1988) on word recognition and Stainthorp (in progress) are beginning to shed light on the different emphases that developing readers have. Adams and Huggins (1985) research indicated the ways the poorer (younger?) readers over rely on contextual cues. More studies need to take place in order for teachers to be as potentially well informed as possible whilst working with their pupils diagnostically. Research evidence clarifying patterns of word recognition development will inform teaching practice and how competent processing of print can be facilitated by teaching.

Part 2 of the study sought information from a sample of reception teachers through a postal questionnaire survey on their perceptions of the processes of literacy acquisition and how they maximise an individual child's literacy-related abilities, understandings and skills in order to foster development. Children arrive at school with varying levels of knowledge: how aware are teachers of their competence and to what extent do they capitalise on the child's considerable strengths? And does teachers' understanding of entry skills match the results of Part 1 of this research?

CHAPTER FIVE

Methodology of Part 2 of the study

'One day there was a **M** and then **M**
played with the **e** and the **e** played with the **l**
and the **l** played with the **a** and the **a** played with **n**
and the **n** played with the **i** and the **i** played with the
e and the **e** played with nobody
and the **e** was very sad.

A story about her name by Melanie, age 5"
Wells, C.G, *Learning from Interaction* (1981)

Chapter Five

Methodology of Part 2 of the study

Methodology of Part 2 of the study

5.10 The context for Part 2 of the study - The Questionnaire Survey

The data from Part 1 of the study indicate interesting and important findings regarding the development of literacy both at school entry and during the first year of school. The 191 children came to school with a very wide range in literacy-related understandings and skills. The children also varied measurably in intellectual maturity. It was not surprising that the intellectual maturity of the child was positively linked with reading at the end of the year.

Although how able a child was had an association with reading in the analyses at the end of the year (see Tables 8, 9 and 10), it was not as highly predictive of later reading as the three literacy-related entry skills: knowledge of the alphabet, ability to write her own name, and concepts about print. Multiple regression (Tables 7 and 8) demonstrated that it is the ability to identify and label letters of the alphabet at school entry that is the most powerful predictor of all the measures used.

So strong is the relationship between the three literacy-related skills and reading in the July that it was possible to place children with 80% accuracy into groups of readers and non-readers on the extent to which they have acquired these skills by the time they came to school.

The explanation offered regarding the findings of the relative power of these entry skills to predict reading, is that all three understandings are important but that ability to label letters of the alphabet and ability to write name might denote a more advanced stage of literacy development. This will be explored more fully in Chapter 7, 7.31 and 7.32.

Given the importance of the results of the first part of the study and the insight that they provide into development from emergent literacy through to conventional beginning reading, the role of the class teacher needs to be addressed.

Although which teacher the child had was less important regarding learning to read than the level of knowledge of books and print the child possessed on arrival at school, none the less, it seems that some teachers had a positive effect. Not only did groups of children make greater or less progress than might have been expected from their entry skills but 20% of individuals were misplaced in the reader and non-reader groups. All the teachers had been selected because they were considered "effective"

by headteachers, advisers and peers (see 2.32 on selection of teachers for Part 1 of the sample).

As practice within the small sample of "good" teachers varied, it was decided to seek information from a larger sample of reception class teachers, on both knowledge of the reading process and on current practice on the teaching of reading. The purpose of Part 2 was, therefore, to be able to make informed recommendations at in-service and initial teacher education levels on the support of literacy development in the early years of school.

Therefore Part 2 of the study aimed to examine:

a) The extent to which reception class teachers are aware of the most predictive entry skills;

b) The ability of reception class teachers to identify the skills in their new school entrants;

c) The use that reception class teachers made in their teaching of reading of the most valuable entry skills with which children arrive at school.

5.11 The rationale for the postal questionnaire

Consideration was given to the most appropriate method of data collection in order to investigate the issues stated in 5.10. A decision was made, as has been indicated, to study not only the teachers whose classes were involved in Part 1 but to include also a wider cross-section of teachers in the same geographical areas. The fact that there was overlap with teachers in Part 1 of the study is irrelevant, as no causal link between Parts 1 and 2 was intended. A sample of 50-75 reception teachers was sought in order to balance the sample of 191 children in Part 1. Given that this part of the study was to be conducted by a single researcher, the postal questionnaire survey had the advantage of being a low cost method of data collection and processing in terms of time. In addition, it enabled the use of respondents from a reasonably wide geographical area. The main disadvantage proved to be the low rate of response (62 returned from 110 questionnaires sent: see 6.10) and the lack of opportunity to correct misunderstandings, to explain the purpose of certain questions or to probe interesting responses. Nevertheless, it was considered that the carefully structured questionnaire would provide useful information.

5.20 The Pilot Interviews

Nine exploratory interviews were conducted with reception teachers prior to designing the postal questionnaire. The interview covered areas that had been found to be influential by the Hackney Literacy Study (1988) and as such to affect the teachers' efficiency in the teaching of the early stages of reading. The initial training of the teachers, the extent to which they had attended in-service courses and their further qualifications were investigated together with the breadth and the type of teaching experience they had encountered during their careers. The organisational factors within the schools, found by other studies to influence teacher effectiveness such as the length of time the Headteacher had been in the post and the extent to which he or she was supportive to staff (Mortimore et al, 1988) were also addressed in the initial enquiry. At the interview stage, it was anticipated that this information might be utilised.

The main part of the interview focussed on the methods and organisation of teaching reading favoured by the teachers and the time they devoted to it. The views that the teachers had on the processes of literacy acquisition were investigated. It can be argued that the ways that teachers believe that children learn to read and write would inform the methods they use to teach them, although research findings do not always uphold this view (Tizard et al, 1988; Mortimore et al, 1988).

The personal details of the teachers interviewed regarding their qualifications and teaching experience proved salient to the research focus but, as a wider sample of teachers was used than those involved in Part 1 of the study, it was not possible to associate these details with their practice by the measurable outcomes in the analyses of the study. The new sample of teachers made a link between Part 1 and Part 2 impossible. These issues were, therefore, omitted in the postal questionnaire.

The interviews revealed that the methods used to teach reading vary considerably. Reading schemes were used solely, and , in conjunction with story/picture books. The reverse method of story books being the main vehicle was also true, and there were varying patterns of emphasis between the two combinations of approach. There seemed also to be a wide disparity in the value placed on sub-skills and the order and extent to which they were taught. As in the Hackney Literacy Study these differences seemed to emanate from the teacher's belief systems in how literacy is acquired. The nine teachers used various strategies to augment their classroom practice, such as the use of libraries, book clubs and involved parents in children's book experiences in several ways. They also subscribed to the view that children read because they want

to, and attractive collections of frequently changing books were made accessible to their classes. The extent to which the headteacher supported this interest-centred approach both by acknowledging it and by the existence of a whole school language policy, backed up by appropriate resourcing, was discussed during the interviews.

The systems employed to record the progress made by their pupils varied from a simple home/school record card of books that had been read, to the keeping of elaborate check lists of skills and developmental stages through the use, for example, of the Primary Language Record.

5.30 The sample

These data resulting from the exploratory interviews informed the conceptual and operational framework of the questionnaire. The main aim focused on the reception class teachers' approaches to teaching reading informed by their understanding of the process. Those teachers involved in Part 1 of the study and an additional seventy-five reception teachers were to be circulated by the postal questionnaire. The same geographical areas of Oxfordshire, Berkshire, Haringey, Harrow, Lewisham were used. The Local Educational Authorities of Westminster, Camden, Hillingdon, Southwark and Greenwich were added to the sample. Schools used by the Institute of Education Primary PGCE course tutors were approached, the permission of headteachers sought and their reception classteachers invited to take part in the research project.

These additional teachers made the survey exploratory in its aim, a "what's going on out there?" information trawl, as no associational link was intended between the findings of Part 1 or Part 2 as discusssed in 5.10. This fact made information on the personal career and qualifications of the teachers, whilst of general interest, of no direct relevance to the stated aims of the questionnaire survey.

A further issue to be acknowledged is that the additional teachers were not selected on the same basis as the reception class teachers whose classes had been studied in Part 1 of the study (see 2.32). The original sample was recruited with the criterion that the teachers were considered to be "effective", but the additional teachers were not. The data collected in Part 1 of the study does indicate that the level of effectiveness varied, and four case studies are explored in order to discuss this in depth in Appendix 25. The extent to which the two groups of teachers are represented by the responses received will be considered in 6.10.

5.40 The construction of the questionnaire survey (See Appendix 22)

The questionnaire sought details from the reception classteachers on their approaches and methods of the teaching of literacy. In anticipation of the variety of practice to be found in schools, an attempt was made to gain information also regarding the teachers' views and understandings of the process of literacy. The design of the questionnaire was informed by the internal logic of the inquiry and the likely reactions of the respondents.

Care was taken to avoid implying that there was a 'party line' and consequently right and wrong answers. The design was such that responses were not too focussed through a multi-choice format before an initial broad enquiry. It was important not to prematurely foreclose responses in the area of entry skills, the use of funnelling questions further facilitated the focussing of issues where appropriate.

Appropriate prior consideration made it possible to design coding frames for the open questions, and to thus quantify the frequency of responses by the use of percentages. Through these means hypotheses generated from the findings of Part 1 of the study were explored and tested.

The first part of the questionnaire was intended as a non-threatening introduction to the inquiry.

Questions 1, 2 and 3, sought information on the declared aims of the reception teacher for the first year of school and whether the introduction of the National Curriculum had affected these aims. Tizard et al (1988) had found in the Infant School Study that the priorities of reception class teachers for their pupils affected their progress. Recent research into reading standards (NFER 1992, Gorman and Fernandes) suggest that there is evidence that there has been a decline in standards since the introduction of the National Curriculum (in 1989) at Keystage 1. It seemed relevant to know whether reception teachers perceived pressure from the National Curriculum, its prescribed content and its associated testing to be affecting adversely or positively what was traditionally deemed to be important in the first year of school, namely the teaching of reading and the socialisation of the new pupils. The issue of a close match of teaching to existing skills is emerging as a crucial issue from Part 1 of the study. The following series of questions attempted to elicit insight into this.

Questions 4, 5, 6 sought information on the importance the teachers placed on the understanding, attitudes and skills that children bring with them on entry to school.

The questions were intended to probe the knowledge of the teachers themselves on the processes of literacy critical as that is for the way that it is taught.

Question 7 drew on the experience of the pilot interview enquiry on the methods of teaching reading. Practice appeared from the interviews to vary considerably, as has been stated earlier. The question was worded in an open-ended way to fully exploit the diversity which was expected to emerge.

It is important to recognise here that teachers are, on occasions, misled regarding their own practice, and give optimistic over-estimations on the extent to which they do certain things. Tizard et al (1988) found that teachers over-estimated the time spent hearing children read, and Mortimore et al (1988) reported similar misperceptions of their work. Whilst acknowledging the rhetoric/reality gap, it was however deemed valuable to invite teachers to report on their practice on the postal questionnaire.

Question 8 was a closed question giving the four entry skills that had proved to be the most powerful predictors for the success of early reading in Part 1 of the study. The whole issue of the ability of teachers to teach to the important entry skills depends on the extent to which they are aware of them. Comments were invited after the list of the four skills in order to elicit whether the reception teachers surveyed considered that crucial entry skills had been omitted.

Question 9 sought clarification on the teachers' awareness of the need of the close match of teaching to the child's existing strengths and developmental level. At its most simple "Effective instruction therefore depends on a deep, thorough, and flexible understanding of the knowledge and processes involved in reading and of how they vary across development and children. Yet its realisation depends additionally on constant and acute sensitivity to each child's person and progress — on meeting and responding to each child's needs by building on her or his strengths, interests and confidences". (Adams,1991, p.35). This open-ended question 9 addressed this crucial teaching issue that sought information regarding reception teachers' thinking on their own teaching approach in 1991.

The final part of the questionnaire focussed on the reception teachers' attitudes to the process of literacy acquisition. The issue of probing attitudes that underlie and inform behaviour is highly problematic as Oppenheim (1992) writes, "...We lack strong theories about attitudinal constraints in people's minds, theories that might help us to understand what happens when we use language to trigger or activate such constraints in order to reach and measure them?" (p.149). Whilst accepting the

difficulties, the reason for including the Hackney Literacy Study Attitude Scale (Appendix 22) was to elicit information on the extent to which practices on teaching reading are related to declared belief positions on the process of literacy acquisition. Attitudes are clearly a product of knowledge but are also formulated in the world of opinion. The attitude of an individual also affects behaviour. The research team in the Hackney Literacy Study (1988) devised a scale of teacher attitudes to Literacy consisting of nine statements. The various items permitted the formation of a scale of teacher attitudes on a continuum from 'developmental' (scores 30-42) at one end to 'traditional' (scores 18-24) at the other. Those teachers who lay somewhere between the two extreme approaches could be described as 'intermediate' (25-29) by the researchers.

The teachers who were described as 'developmental' in their approach were likely to agree or agree strongly with the statements 'reading schemes are of limited value' 'giving children spellings is likely to be counter-productive, learning is a process that has to be allowed to develop'; 'the context of children's writing is more important than its correctness'; 'parents are under-utilised as a teaching resource' and 'competition undermines the natural desire that children have to work together' (item 2, 3, 7 & 9). They were also most likely to disagree or disagree strongly with the statements, 'the teaching of phonics is important for successful reading'; 'the most important part of learning to read is the mechanical process'; 'interest-centred learning is a waste of time' and 'ability in reading is more determined by heredity than environment' (items 1, 4, 6 & 8).

By the same procedure, those described as the traditionalists were identified by the fact that they were most likely to agree or agree strongly with items 1, 4, 6 & 8 and disagree or disagree strongly with items 2, 3, 5, 7 & 9. Those teachers whose views fitted neither those of 'developmentalists' nor those of 'traditionalists', either held no strong views about literacy (indicated by selecting the mid-point of scale) or could be said to be eclectic in view or held views that were apparently inconsistent. These were termed intermediate in attitude.

The Hackney Literacy Study researchers state that the theoretical underpinning of the 'developmental' approach (and that advocated by the advisory service!) lay in the writings of Frank Smith and Kenneth Goodman (i.e. a top-down meaning-centred approach). The Hackney Literacy development programme promoted the practice as described by Liz Waterland (1985) in the "Apprenticeship Approach'. The traditional approach is described as a skills-based (bottom-up) approach.

5.50 The pilot work of the questionnaires

Ten reception teachers attending the Masters Course in the Department of Child Development and Primary Education and four PGCE tutors who had taught that age-group completed the questionnaire. As a result amendments were made. The way that the ranking system was to be used was clarified i.e. 5 denotes the most important. Question 2 was altered to include how the teachers emphasis changes during the first year of school.

5.60 The approach to respondents

Permission was sought to approach the 110 respondents from their respective Headteachers. In order to gain co-operation the study was explained and contextualised for the reception teachers in a letter (Appendix 23) all of whom knew of the Institute of Education and the Primary PGCE course. High response rates were sought by careful timing of the arrival of the questionnaire (i.e. at the beginning of the academic year), the sending of it to the Headteacher in the first instance, a stamped addressed envelope for return, and an optimistic faith in the subject of the inquiry being one of interest to teachers, namely the teaching of reading. Complete confidentiality was assured, and the questionnaires coded to give information of response, no identification of respondents' names were used. On the non-appearance of the questionnaire after three weeks, a reminder phone call was made to the school secretary (**not** the Headteacher!). Several replacement questionnaires were sent for those mislaid, another fifteen were returned through this subsequent pleading.

The issue of bias regarding the non-returns has to be considered. The most common reason that was given was pressure from other aspects of the teachers' workloads. The issue as to whether the high non-response rate threatened the representative nature of the results needs to be addressed. The sample had its limitations; certainly it included schools operating in a variety of circumstances, over a wide geographical area (see Table 19), but it contained both a selected sample of teachers and a group circulated relatively randomly. The teachers also chose whether to co-operate and respond to the postal survey or to ignore it. In that sense the respondents were a self-selected group. In defence of the claims to be made for the results to be presented in Chapter 6, the non-respondents were balanced proportionately across the two groups of teachers, i.e. those who took part in Part 1 and those circulated through professional contact. On examination of the data it is difficult to estimate whether there is a qualitative difference between those who responded and those teachers who did

not. The spread and variety of the responses makes detection of a bias difficult to discern.

Chapter 6 will give the results of the data collected by the questionnaire survey in the Autumn 1991.

CHAPTER SIX

Results of Part 2 of the study

'A little later the child shakes her head and seems uncertain. The teacher asks, 'Why did you stop?' 'I don't remember that word.' 'What word would make sense there?' 'Bike. But this word is longer. It's got to be bike. Oh! It's bicycle!'

Clay, M.M. (1993)

CHAPTER SIX

Results of Part 2 of the study

CHAPTER SIX

Results of Part 2 of the Study

6.10 Results of the questionnaire survey sent to reception class teachers

When 40 of the questionnaires were returned (i.e. a third of those sent) and they were considered to be suitably representative in that the returns were evenly distributed over the areas used by the survey, a coding frame was set up for each free response question. Each response was written down, and then bearing in mind the aim and hypothesis of the survey and the particular purpose of the question under consideration a categorical coding frame was designed. An example of how this was achieved follows. Question 2 explores both if and how the teacher's aim for the reception class changed from a social to an academic focus during the year. The reasons for this change of emphasis fell into two main categories. Firstly, as the children settled into school and they became more socialised; or secondly, as they became more independent in their learning a number of the responding teachers were able to pursue a more academic curriculum.

The remaining 22 questionnaire returns were then analysed for fit to the coding frame generated. If the need for a third category was indicated the whole sample was re-inspected in order to decide whether in fact the additional category added information that was valuable and so gave further insight or whether for classification reasons the generic category of "other" or "miscellaneous" could be used. Where possible the actual words of the responses were used as labels for the coding frame. In questions 4, 5, 6 and 7 methods close to data reduction (Miles and Huberman, 1984) were used. This process refers to the selection, focussing, simplifying, abstracting and organising of the data, in order to generate or frequently to reduce the categories for the coding frame. Where this occurred full details will be given.

6.11 Details of the sample

Table 19

LEAs used for data collection by postal questionnaire survey
n = 62

Harrow	Hillingdon	Oxfordshire	Islington	Haringey
5	5	9	6	7
Hackney	**Lewisham**	**Berkshire**	**Croydon**	**Camden**
7	5	7	5	6

Of the 26 reception class teachers in Part 1 of the study, 12 completed and returned the questionnaire

6.12 The declared aims of reception teachers for the first year of school

Information was sought on the perceived aims of classteachers in the first year of school for their pupils. It was assumed that their declared intentions would affect classroom practice. Social considerations were viewed as marginally more important than academic (see Table 20).

Table 20

The aims of the reception teachers surveyed for the first year of school
n = 62

Least important	1	2	3	4	5	Most important	
Mainly academic aims	4 6.4%	10 16.1%	40 64.5%	6 9.6%	2 3.2%		Total = 62
Mainly social aims	0	2 3.2%	20 32.2%	24 38.7%	16 25.80%		Total = 62

6.13 The change in aims during the first year of school

Teachers were asked if their emphasis had changed during the first year and if so what the reasons for this might be (see Table 21).

Table 21
The change of emphasis during the first year of school
n = 62

A great deal	Somewhat	No, not at all
7 11.2%	47 75%	8 12.9%

A very high percentage, 86% of the teachers, moderated their aims, as the children settled into school, from a social emphasis to more academic considerations. There were three main reasons for this. There were those teachers who considered that children needed to settle into school before academic demands were made on them. One respondent commented "schools are academic institutions but without social cohesion they don't work. After initial settling in, hopefully it is all about learning, including social skills." typified the 36 people who came into this category. Seven teachers considered that learning needs to become more academic in order to meet the demands of the middle infants (Year 1) but the pace and challenge will vary from child to child. Six others felt that as children become more independent they can take on more. For example in the words of one reception teacher "Children become more aware of books, letter sounds, words, etc and take more responsibility and initiative with their own learning. They become very enthusiastic and are often the driving force in the classroom". Only 8 teachers claimed that their emphasis did not change during the year despite the advent of the National Curriculum.

6.14 The National Curriculum and aims in the reception year

Research evidence indicated that there has been a decline in reading standards since the National Curriculum was introduced at Keystage 1 in 1989 (Gorman and Fernandes, 1992). Question 3 was included in the questionnaire to elicit the

information whether and how the National Curriculum had affected the first year of school in the view of the reception teachers in this study (see Table 22).

Table 22

Responses concerning the effect of the National Curriculum on the declared aims of the first year of school
n = 70 (responses)

RESPONSES **8 teachers mentioned more than one effect**	**n. 70**	**%**
More aware of academic issues e.g. Science	32	45.7
Different emphasis/more directed	5	7.1
Less time for social training	3	4.2
Greater pressure experienced	7	10
More record keeping	9	12.8
Less time	1	1.4
No, not at all	14	20

"Pressure to cover more areas than would otherwise be attempted - leading to less time spent on reading" represented the main effect expressed in 46% of the responses. Those teachers (in 1991) felt that the reception year was more academically directed than previously. A side issue but relevant to this category is that the demands of the National Curriculum have raised parental expectations which has in turn affected the teaching approach driving the curriculum towards the "3Rs" and making it overtly preparatory for Year 1. Some teachers felt that the reception year is "far less child-centred. The increased volume of activities which must be provided at the expense of 'depth' and 'learning' skills." Topic work tends to be more science based than before 1989 according to seven teachers. However, few teachers considered the National Curriculum to be a negative influence and two teachers wrote

enthusiastically that their record keeping had been affected for the better, and that now their teaching is more effectively planned and thought through. A surprising 20% of the respondents declared that the National Curriculum had had little or no effect on their aims and teaching "I don't think it has, or should, but I do feel psychologically under more pressure" and "Very little - the foundation work is much the same" are two typical comments of this response category.

6.20 Reception class teachers' understandings of the reading process

The following four questions were attempting to elicit from teachers' knowledge of the reading process. Question 4 asked the respondents to list and rank order, the skills and understandings that facilitate learning to read.

The purpose of this question, the first of the funnelling questions, was to probe the knowledge of literacy acquisition of the teachers surveyed. This was achieved by focussing the inquiry on the pre-requisite skills needed by the child before teaching can begin. The initial scan of the data resulted in sixteen main headings of skills and understandings. The enjoyment of books and the motivation to read would be better described as an attitude and was considered by 27 teachers (43% of the sample) to be the most valuable "understanding". This was ranked as most important by more individuals than any of the other facilitating attributes. The sixteen headings were collapsed into generic labels for the coding frame (see Table 23). Concepts-about-print was mentioned by all the teachers in some form and in several instances more than once e.g. some teachers listed directionality and understanding that the words not the picture tells the story as discrete items and so they were separately ranked. Thirty-one teachers mentioned knowledge of the alphabet as important but only 5 ranked this as most or very important. This contrasts strikingly with the findings reported in Chapter 3.

Table 23

Reception teachers list of skills and understandings that facilitate learning to read
n = 111 mentions

Most important ← → important

	4	3	2	1	Total Mentions	Total %
Concepts-about-print Text carries meaning, pictures help, 'directionality',one-to-one correspondence, etc	6 5.4%	27 24.3%	15 13.5%	22 19.8%	70	63
Sub-Skills of Reading Good visual/auditory discrimination/ visual memory/ sequencing skills/using picture cues/matching.	1 .9%	13 11.7%	19 17.1%	23 20.7%	56	50
Enjoyment of books and stories **/motivation**, Handling books appropriately	27 24.3%	5 4.5%	4 3.6%	5 4.5%	41	36
Knowledge of the alphabet grapho/phoneme awareness	3 2.7%	2 1.8%	5 4.5%	21 18.9%	31	27.9
Concentration Listening skills			19 17.1%			
Sight Vocabulary i.e. actual reading	2 1.8%		3 2.7%	1 .9%	5	4.5
Intelligence	1 .9%					
Settled into school	1 .9%					

The second category, labelled the sub-skills of reading, covers a wide range of skills of both the bottom-up, de-coding and top-down, contextualising cues for meaning (use of pictures and prediction) types. These receive nearly 50% of all the mentions and encompass code breaking strategies on the part of the child. Teachers are aware of the need of these facilitating skills and are clearly able to detect their absence or presence in the child's repertoire. Spoken language is not mentioned, but 19 teachers linked being able to concentrate with also being able to listen to both stories and instructions. Only one teacher mentioned being settled into school as the most important despite the declared strong allegiance to the inculcation of social and settling skills for the aim of the reception year in question 1.

Five teachers stated that they were unable to order by ranking their important literacy related skills as they considered all to be equally crucial and those listed were:-

The knowledge and love of stories

The motivation to read

Listening skills

The use of picture cues

Concepts about print

Prediction skills

Aural and visual discrimination

Two people mentioned confidence and hand-eye coordination as being important.

6.21 The criteria used by reception teachers to assess the child's development in reading

Question 4 asked teachers to list four important facilitating literacy related skills, Question 5 investigated the criteria that teachers used in order to assess literacy development, which implied that it was first necessary to do this in order to start their teaching of reading.

Many teachers considered that this was a repetition of the previous question, rather than a probing of the key reading behaviours exhibited by the child. The teachers mentioned 89 times the behaviours that indicated both enjoyment and familiarity with books as a measure of reading development "How they handle books" "Whether child has interest/enjoyment in books and stories" "Enjoys a book" "Enjoys storytime" are all examples of the respondents criteria to assess the child's readiness to start learning to read.

Understanding of the ways that books and print work is also a high priority criteria for many of the teachers who mentioned concepts-about-print 54 times. "Can the child correctly orientate the book?" "Aware that print carries meaning" are two examples of the assessment criteria for those teachers.

Only 4% of the mentions are concerned with focussed criteria and are diagnostic of de-coding strategies. These teachers mention "Recognition of some words and letters including recognition of environmental print", "Ability to remember a few words after a book sharing" and "Ability to think of other words that start with a certain sound" (see Table 24).

Table 24

Reception teachers criteria used to assess the child's development in reading
n = 201 mentions

	Most Important ← 4	3	2	→ Important 1	Total	%
Behaviours indicating enjoyment & familiarity with books **Looks at books on own/in groups/ can re-tell a story/ interested/ motivated/acts like a reader**	29 14.4%	18 8.9%	21 10.4%	21 10.4%	21	10.4%
Concepts-about-print	5 2.4%	23 11.4%	16 7.9%	10 4.9%	10	4.9%
Sub-Skills of Reading Able to predict/ match/ picture to word	3 1.4%	7 3.4%	4 1.9%	16 7.9%	16	7.9%
Language Skills/ Concentration	4 1.9%	5 2.4%	2 .9%	3 1.4%	3	1.4%
Knowledge of the alphabet	2 .9%	1 .4%	1 .4%	9 4.4%	9	4.4%
Comprehension	1 .4%					

Only 6.5% of the mentions were concerned with identifying and labelling individual letters of the alphabet and only 3 of the 201 mentions ranked these as very important with a 3 or 4 rating. Not one of the teachers mentioned being able to write one's name as an index of literacy development.

Teachers are both knowledgeable about and place great emphasis on the attitudinal and motivational aspects of the emergent literacy phase in reading acquisition but do

not appear to look for the specific clues of orthographic development in decoding the transitional phase into conventional reading.

6.22 The reception teachers' views of the most crucial attitudes and attributes acquired in the emergent literacy phase of development

Question 6 investigated through a differently worded question the teachers' knowledge of the beginning reading phase of literacy and the pre-requisite foundations that have to be laid earlier. This was an opportunity for teachers to respond more widely, from both a skills to attributes and attitudes focus.

Again the highest proportion (38%) of mentions were directed towards enjoying and valuing books and stories. Two teachers put this as their sole response. Some of the comments were that they hoped parents and carers had taught the child that "Reading is fun and part of play", "To love stories, independently and shared" and "how to treat and love books"

Spoken language is highly valued by the reception teachers surveyed. The respondents gave 53 mentions (22.6%) covering speaking and listening skills from the talking about stories, using a rich vocabulary and learning songs, rhymes and poems. One teacher mentioned that she hoped that her pupils would have learned to hear rhyming pattern, alliteration and onomatopoae, evidence of influence from the Bryant and Bradley (1985) research.

Concepts-about-print in its many forms are also mentioned (40 times) by the teachers (see Table 25). Recognising and writing one's own name is rated as important in response to Question number 6 shown by this category receiving the 14 mentions.

Knowledge of the alphabet is not highly rated as it only occupies 4.7% of the mentions. In this section the teachers referred to this attribute as "an awareness of the alphabet" and they also hoped that parents and carers would teach both letter names and sounds.

Table 25

Crucial attitudes and understandings inculcated by parents and carers in the pre-school phase
n = 234 mentions

	Most important → 4	3	2	→ important 1	Total Mentions	%
Pleasure/motivation Enjoyment of books/ able to share a story/ able to care and value books	43 18.3%	19 8.1%	12 5.1%	16 6.8%	90	38
Good language development wide vocabulary/ rhymes, songs/ listening skills/ able to talk about stories	11 4.7%	12 5.1%	18 7.6%	12 5.1%	53	22.6
Concepts-About-Print	7 2.9%	10 4.2%	9 3.8%	14 5.9%	40	17
Reading is useful	3 1.2%	12 5.1%	6 2.5%	4 1.7%	25	10.6
Word Recognition esp. own name		1 .4%	4 1.7%	10 4.2%	14	5.9
Knowledge of Alphabet		1 .4%	2 .8%	8 3.4%	11	4.7
Encouragement of Writing and Drawing		1 .4%			1	.4
				Total	234	99.2

6.23 The most important of the crucial entry skills in learning to read

This was the final one of the funnel questions probing knowledge of the literacy process. Given that Part 1 of the study demonstrated that children come to school with a wide and differing range of development in their literacy acquisition and that

some skills are more powerful than others, in predicting later reading success, the survey explored what importance the respondents attributed to those particular skills. How do the 62 respondents rank the four valuable predictors Spoken language, Concepts-about print, Ability to write name and Alphabet knowledge when supplied with the categories?

One teacher refused to rank the entry skills considering them to be equally important. The teachers were given the four entry skills that have been shown to be predictive of reading success at the end of the year (3.50) 42 teachers (67%) considered that spoken language was either most important or very important at school entry in facilitating reading (see Table 26). Only a third of the teachers (21 & 17) considered that coming to school knowing how to write your name and the alphabet respectively, were the most important skills regarding literacy, out of the four given skills. This is contrary to the findings of Part 1 of the study, that ability to identify the letters of the alphabet and to write one's name were so powerfully predictive of reading a few months later. This is the most important finding of Part 2 of the study. If teachers do not appreciate the value of children's ability to identify the alphabet or what understandings it indicates, they clearly will be ill-placed to teach to this strength. Also this result cannot be discredited with the 'rhetoric/reality' argument mentioned earlier (in 5.40) as this question probed awareness rather than practice.

Table 26

Reception teachers' ranking of four given entry skill
n = 61

	Most important ← 4	3	2	→ important 1	Totals	%
Spoken language	35 56.4%	7 11.2%	2 1.8%	17 27.4%	61	96.8%
Concepts-About-Print	6 5.4%	34 54%	18 24%	3 4.8%	61	96.8%
Ability to Write Name	10 16.1%	11 17.7%	21 33.8%	19 30.6%	61	96.8%
Alphabet Knowledge	9 14.5%	8 12.9%	22 35.4%	21 33.8%	61	96.8%

Nineteen teachers believed that the latter skills were the most important. The full sample of 62 reception teachers are not represented in the Table as one individual refused to rank the skills indicating the reason to be that the entry skills are equally important. Spoken language has a bi-polar distribution and the respondents were likely to either consider it the most important or least important entry skill.

The data were analysed to see how many teachers had paired spoken language and concepts-about-print together in importance and therefore assigning paired knowledge of the alphabet and ability to write one's name as less important. The data were inspected to see if the converse was also true. In other words, the hypothesis was tested that the teachers had paired the entry skills into either holistic top-down attributes or bottom-up, print focussed skills. On close examination of the data there appeared to be an association made in the clustering of the skills by function. Seventy-five per cent of the reception teachers who had ranked spoken language as the most important, placed concepts-about-print as the second most important. There did appear to be a logical pattern in the ranking of the four given entry skills found to be so highly predictive in Part 1 of the study.

6.30 The different methods or approaches to the teaching of reading used by reception teachers in the survey

Much media and government interest has centred on the methods of teaching reading adopted by teachers. To what extent is the use of the picture book or real book reading approach (or whole language (American) approach) used in preference to a graded scheme? Question 7 sought information from the respondents on how they taught the early stages of reading.

The 329 responses indicated that the reception teachers surveyed drew from a diverse and eclectic range of approaches. Their statements varied from stating that they used a whole scheme "Break through to literacy" to the teaching of a single sub-skill such as "teaching initial sounds when teaching hand writing."

The data were examined to refine and reduce the responses into 11 main categories. The teaching of reading through real books and stories emerged as the approach mentioned most frequently (at almost 20% of the responses) but it could not be described as widespread. The teachers described this approach in many ways as "sharing good picture books with children" "Enjoying books together", "Reading a story book to a child, letting him/her read it back", "sharing a story in a Vygotskian way 'scaffolding' the child into reading" and "encouraging the re-reading of favourite stories". Some of the respondents capitalise on the books as the basis of their language programme by making games and activities based on the story.

The next most prevalent method of teaching reading is through writing (15.1% of the respondents mentioned making books in some form). Teachers state that they "make books with groups". "make class books", "write simple stories with the child" and "that they use shared writing to teach reading". Clearly this encoding of print, with a child and for a child is recognised as a powerful approach to facilitating the de-coding. It is purposeful, and because it is also richly contextualised and personal, it facilitates the re-reading.

The focus then changed to the teaching of the sub-skills. Teaching of the letters and sounds of the alphabet is a close third to teaching reading through writing (49 mentions opposed to 50). Teachers rarely elaborate on how they achieve this. Two mentioned "teaching initial sounds when doing handwriting" and "using name games when lining up" and several individuals claim to rely on "Letterland" the commercialised scheme for the teaching of alphabet recognition.

Four approaches received equal numbers of mentions (see Table 27). The teaching of sequencing, building a sight vocabulary both could be achieved through using print in the environment and practised through group reading. The teachers mentioned re-telling stories through poetry, dance and music, "filling the room with language", wall stories and captions, and using key word games, look and say and individual word banks.

Only 5% of the responses mentioned using commercial reading schemes and involving parents in their children's acquisition of literacy. It is not coincidence, perhaps, that the two approaches are at the same level of response. If one is using a published reading scheme as the back bone for the teaching of reading, it is more straightforward to send home graded reading books. Teaching reading through the use of real books or writing requires an understanding of the reading process and the individual child's stage of literacy. "Break through to Literacy" cited most frequently as the scheme for teaching reading is, interestingly, a writing facilitator.

Table 27

Reading methods used by reception teachers
n = 329 mentions

	The times mentioned by teachers n. 329	%
Teaching reading through real books and stories Talking about books/ pictures/sharing books/ using picturebooks/ able to use pictures as a cue/ use of big books	63	19
Teaching reading through writing Making books	50	5.1
Learning names and sounds of the alphabet Alphabet friezes/alphabet song/ grapho-phoneme awareness/ learning names and sounds of alphabet	49	14.8
Develop a Story or idea/ sequencing and re-telling Sequencing games	25	7.5
Building a sight vocabulary Flash cards/ word recognition/ language master/ word blocks	25	7.5
Using print in the environment Labels/captions/notes/messages/wall stories	25	7.5
Reading Practice Paired/group/class	25	7.5
Developing visual discrimination visual awareness/develop visual memory/games e.g. snap/bingo	18	5.4
Involving parents Sharing stories in school and at home	17	5.1
Commercially produced Formal Reading Programmes Individualised reading scheme programme Breakthrough to Literacy/ Letterland	17	5.1
Developing listening skills Taped stories, auditory discrimination tasks, rhymes, songs, computer software	15	14.8

This questionnaire survey reveals that approaches to the teaching of reading differs considerably between and within schools. Some reception class teachers see the path to literacy to be through the twin processes of reading and writing. Others rely on a more sub-skills approach and only a few claim to rely on commercially produced graded reading schemes. The extent to which these teaching methods reflect views of the process of literacy acquisition will be explored.

6.40 Reception class teachers declared ways of matching teaching to entry skills

One teacher responded to question 8 on the methods of teaching reading by remarking that her answers referred to question 5 on criteria for the child's literacy development as the two are indisputably linked. Another wrote "I am convinced the failure of many children in reading is due to the mis-match of activities in the first year of school. Therefore a careful assessment of the child in the early weeks of school is my priority. Much of this is done by observations of him working independently in an environment which is an extension of his nursery or playgroup." There then followed an essay on the ways that she did this!

In contrast 7 teachers did not respond at all - one stating that she did not understand the question. The majority of the 55 responses were repetition (often at length) of all the activities and approaches they used. Very few, clearly did employ a teaching strategy which closely matches their teaching programme to the child's stage of reading development. Some had a vague idea that this is the ideal and wrote "assess the child by criteria as in Q. 5 and stage of development as in Q. 6. Use this to match teaching to the child" Another expressed his/her practice by "It is necessary to ascertain which developmental stage the child has reached before starting 'formal' reading teaching. This must be done individually - by talking to the child, listening to his comments, observing his interest in and use of books and gauging parental support (if any)" Surprisingly, considering the attention and time given to in-service in order to implement the Primary Language Record only one person referred to this as a means of first assessing the child and then matching the language teaching (see Table 28).

Over 50% of the teachers appeared to use a scatter-gun approach ("something has to work!") in an attempt to match teaching to child, content analysis of the responses shows that the teachers are very unclear how to teach to the child's strengths and the way to reinforce and support weak strategies.

Table 28

Reception Teachers declared ways of matching teaching to entry skills
n = 82 mentions

		%
Use of a wider range of teaching methods e.g. teaching through big books, picture books, home-made books and games	29	52.7
Knowledge of child by sharing books then matching work	18	32.7
Continuous assessment	11	20
Observation	9	16.3
Recording of progress	7	12.7
Matching strengths to the child	5	9
Use of reading scheme colour-coding system	2	3.6
Primary Language Record	1	1.8

Total 82

(7 teachers did not respond to this question)

6.50 Reception teachers responses to the Attitude questionnaire

In order that attitudes to the teaching of literacy could be measured ,a teacher attitude questionnaire developed by the Hackney Literacy Study (1988) was used (Appendix 22). The scoring system of 1-6 point scale placed each teacher along a developmental/traditional viewpoint continuum. The scores in this sample ranged from 18-42 in this instrument.

Scores between 9-24 placed the teachers in the traditional camp as they agreed with statements such as, "Learning to read is a mechanical process." No teacher, however, scored 9-18 which would have indicated that they were extreme in this view point. There were seven teachers in this moderately traditional category.

Scores between 25-29 indicated that teachers have an intermediate view point regarding the reading process. They typically will have neither agreed nor disagreed with a statement such as "Learning to spell is a process that has to be allowed to develop"

There were 7 teachers who appeared to hold an intermediate view point or as the Hackney Literacy Study report points out, these individuals could be inconsistent in their view rather than not agreeing or disagreeing with a statement. For instance one could logically agree with the traditional view that the "teaching of phonics is important for successful reading" and also agree that "Reading schemes are of limited value" which is a view from the developmental protagonists. Many experienced teachers take a central and eclectic stand point.

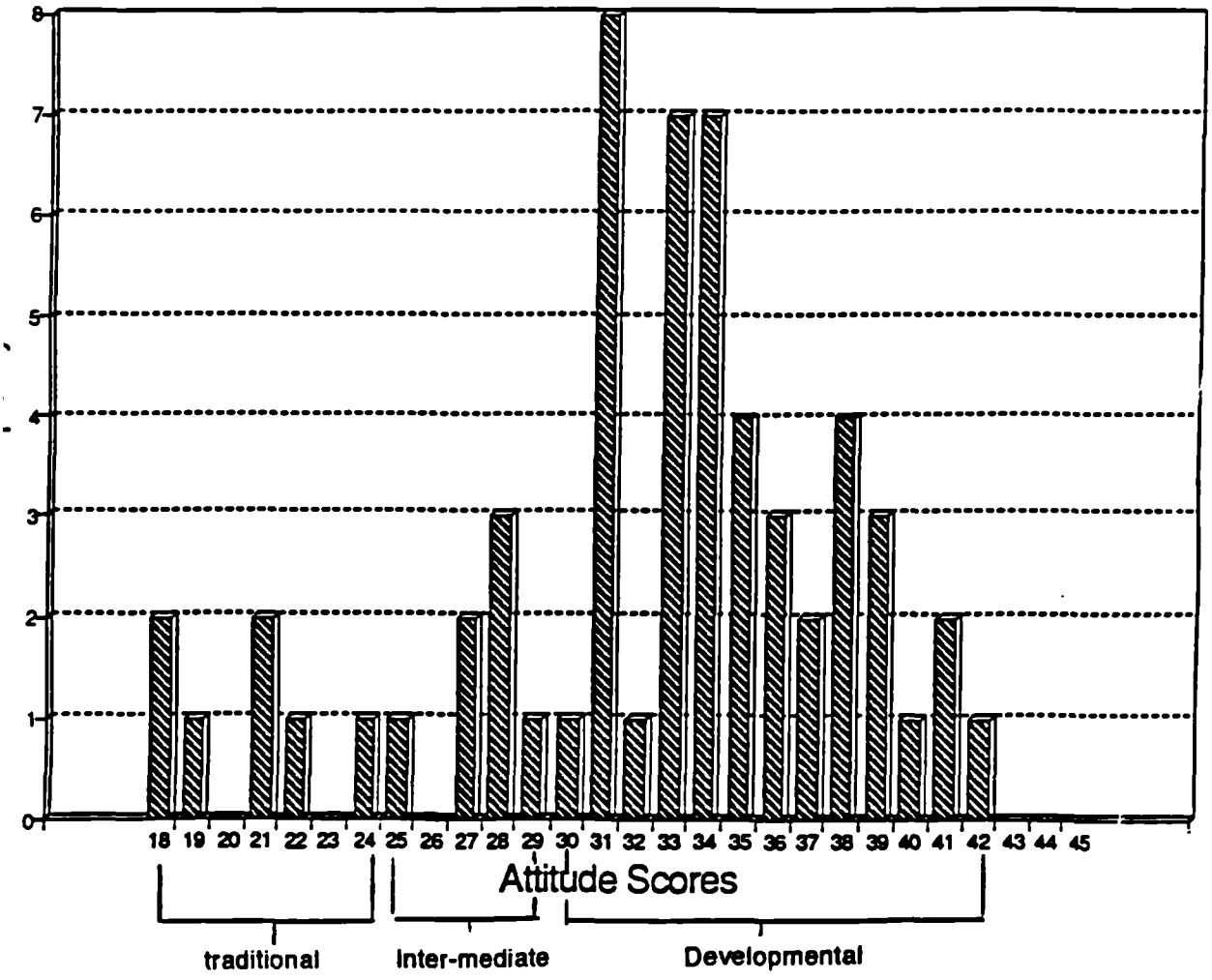
Scores over 30 indicate a developmental view-point to the process of reading. These teachers will have strongly disagreed with a statement such as "The teaching of phonics is important for successful reading."

Table 29 shows the distribution of teachers on the developmental and traditional continuum. Forty-four of the 62 teachers in the survey had the developmental view to the process of literacy.

TABLE 29

Frequency of the distribution of scores on an attitude scale (used in the Hackney Literacy Study, 1988)

n = 62



Viewpoint to the literacy process

Thirty-one teachers (50% of the sample) had intermediate or moderately developmental views (i.e. those scoring between 24-34) on the way that children learn to read and write.

During the three years between the Hackney Literacy Study and the present study it would appear teachers have undergone an attitude change towards a more developmental view (see Table 30) for a comparison of the distribution of the scores from the earlier study.

Table 30
The distribution of the teachers attitude scores in the Hackney Literacy Study 1988
n = 27

Developmental teachers	Intermediate teachers	Traditional teachers
5	13	9

6.51 The changing viewpoint of the literacy process

In-service provision and the implementation of the Primary Language Record (at least in London) may well have had an influence on teachers' views of the literacy process.

No association was found between the views teachers held of the literacy process and the entry skills that they deemed crucial for an early and successful start to reading. This was a surprise.

A table indicated that these views did not affect the way that they taught reading in any consistent pattern. Nor did these views have an obvious association with the way that they ranked the relative importance of the four given entry skills of Spoken language, Concepts-about-print, Knowledge of the alphabet and Ability to write name, although 47 (75%) teachers paired the entry skills. For example Spoken Language would be paired first and second with Concepts-about-print, and Knowledge of the alphabet and Ability to write name were ranked third and fourth, or the reverse order (see Table 27 for distribution).

It was expected that those teachers from the traditional viewpoint would place Knowledge of the alphabet and Ability to write one's name in the highest ranking and vice versa for the developmentalists.

Chapter 7 will discuss the results of Part 1 and Part 2 of the study.

CHAPTER SEVEN

The discussion of the findings of Part 1 and Part 2 of the study

'You have to know the words, what the words say - and what the words spell. I mean, what the letters spell. You have to say the sounds they make and then make the whole word go together ... like B (letter name) says book!'

a six year old

King, M. (1977)

CHAPTER SEVEN

The discussion of the findings of Part 1 and Part 2 of the study

Chapter Seven

The discussion of the findings of Part 1 and Part 2 of the study

7.10 The aim of Sections 7.11 to 7.51

The first section of the discussion will address the research issues investigated in Part 1 of the study in the following order:-

i) The diversity and range of both the intellectual abilities and literacy related skills present across the whole sample of 191 children at school entry.

ii) The strength of the relationship between the individual entry skills and reading by the end of the year, and the value of specific skills to predict successful reading.

iii) The characteristics of those children able to read after one year in school.

7.20 The range of entry skills present in the whole sample

All reception teachers appear, at least anecdotally, to be aware of the differences between children when they arrive at mainstream school. Each September they claim to find a vast range of intellectual and emotional maturity, and a wide span of development in literacy skills in their new pupils.

The present study quantified the wide range of functioning. The 191 children entered mainstream school in the September of 1987 and 1988 with a spread of 15 months in chronological age. Some children had a score of 3 at the lowest end of the score on the Concepts-about-print test devised by the author. This meant that they understood only the direction of the book and the print, and that the text and not the picture tells the story. Some knew no letters of the alphabet whilst one child had a reading age of 8 years 3 months on the Neale's Analysis of Reading test. One child drew a potato person with eyes, but no legs or arms to achieve a score of representational ability of 3 years on the Draw-a-man test (see Figure 6, Appendix 24) whilst another child drew an intricate figure with hair, eyelashes and detailed clothes, scoring a representational age of 8 years (see Figures 13 and 14 and Table 5, Chapter 3).

The range of functioning found in new school entrants makes comparison with other studies worth noting. The Infant School Study (1988) used similar measures to assess literacy-related skills at the end of nursery school and its findings are compared to those of the present study in Table 31.

Overall, the mean scores from the present study were higher than those of the Infant School Study. The two scores that make direct comparison appropriate are those of Concepts-about-print and Letter identification, as they used comparable scoring.

Table 31

Comparison between the entry skills of the present study and the Infant School Study

	The Present Study: Author's Version of the CAP Test	**Infant School Study: TCRU Version of the CAP Test**
Concepts-about-print	Mean 6.3 *SD 2.8* *Possible range 0-12*	Mean 2.5 *SD 2.7* *Possible range 0-10*
Letter identification	Mean 9.4 *SD 10.5* *Possible range 0-26*	Mean 2.4 *SD 1.8* *Possible range 0-26*

The mean Concepts-about-print entry score of the Learning to Read Project (Wells & Raban, 1978) was 3.15, closer to the mean level in the Infant School Study than the present study.

A small scale study by Sutton (1985) was concerned with factors in pre-school children of relevance in learning to read. When she assessed the children at the end of nursery school she also found a wide range of abilities. Sutton regards this fact to be crucially important concerning the teaching of these children. This point is made also by Blatchford and Plewis (1990) who argue that teachers need more formally to assess children on entry to school in order to make an accurate and appropriate match with their teaching. Previous research and the present study all confirm that within most reception classes, there is a wide range of literacy related skills and intellectual maturity.

The present study investigated the entry skills over a wider geographical area than any of the other three studies, and seems to indicate a still wider spread of functioning. The proportion of higher scores denotes a greater preparedness for reading in this sample under discussion.

The extent to which the reception teachers in charge of these children in Part 1 of the study capitalised on these facilitative entry skills will be discussed in 7.30. Also, in Appendix 25 four case studies are considered, in which the teachers and their pupils' progress are contrasted.

7.30 The entry skills that most reliably predict success in reading by the end of the first year of school

In this study the ability to read is operationally defined as having a score of 1 (r.a.= 6.2) and above in the Neale's Analysis of Reading test. The stark cut off point is used due to the requirement for a measure score in the analyses, as discussed in 2.60 and 2.61.

Progress in reading had clearly taken place throughout the sample (see 3.70) in its broader sense. Children had developed more refined understandings of print and its conventions (mean score on the Concepts about print test 10.2 at the end of the year compared with 6.3 at the beginning of the year). Only six children possessed all the concepts about print in September (five of whom were already reading) and 105 scored the maximum of 12 in the July. Identification of the letters of the alphabet had improved also, from a mean score of 9.4 letters known in the September, with 24 children knowing the whole alphabet, to a mean score of 22 letters known in the July and 86 children knowing all the alphabet names and also some sounds.

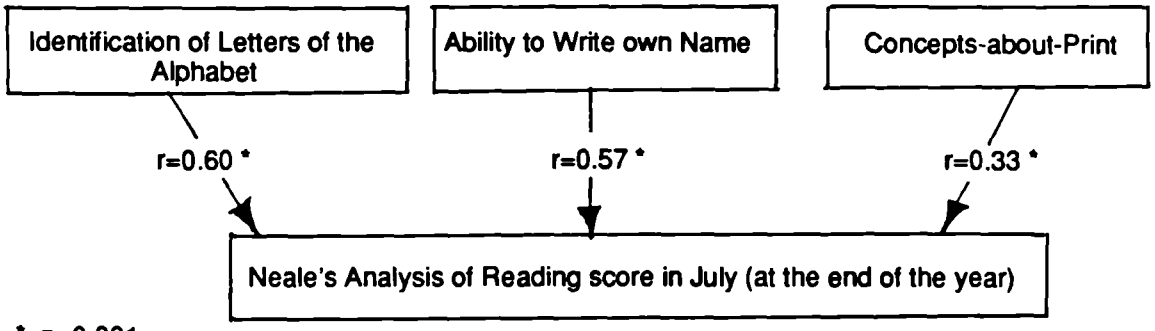
They had had valuable teaching through a variety of literacy experiences and many were developing towards the conventional beginning stage of reading. The Neale's Test score with its arbitrary cut off allows descriptive explanation at its most parsimonious. The relationship of the entry scores, both independently and inter-relatedly, to the reading score has been extensively investigated.

7.31 The association of the entry skills and reading at the end of the year

The most crucial and interesting of all the findings is the relationship between those entry skills and reading at the end of the year. The Pearson correlations denote the simple relationship of the order of scores between, in this case, an entry skill and reading, as assessed by the Neale's Analysis of Reading test at the end of the year. In other words if the order of scores is the same on both occasions of assessment the correlation would be one. Due to measurement error it is not likely in psychology to exceed r=0.9.

Table 32

A Summary of Pearson correlation co-efficients between literacy related entry skills and reading at the end of the year



* p<0.001

Table 33 re-affirms the strength of the association between the more orthographic focussed skills of identification of the alphabet, writing one's name and ability to read. This is a fact that appears generally not to be acknowledged by teachers as Part 2 of the study confirmed (see 7.62). It is, however, in line with other studies, (Wells & Raban and the Infant School Study), and is of great importance regarding the assessment of early reading development, and therefore subsequent teaching.

It is not possible to argue that a correlation provides causal evidence between a particular entry skill and ability to read a few months later. However, multiple regression, although based on correlations, gives further insight into the strength of the association between one entry skill and the dependent variable, as it allows the relative contributions of the individual entry skills to be measured, when they are considered jointly in the analyses.

The step-wise multiple regression indicated that knowledge of the alphabet accounted for 39% of the variance, with ability to write name and concepts-about-print adding a further significant 5% and 2% respectively.

The unexpectedly high 39% contribution of the entry skill letter identification re-affirms the Pearson correlational evidence between knowledge of the alphabet and the Neale's Analysis of Reading Score assessed at the end of the first year of school. This is a very important finding and adds further confirmatory evidence for teachers on this controversial point.

7.32 The ability to identify the letters of the alphabet and reading

For some time there has been considerable debate about the predictive ability of letter identification. This was regarded as a highly provocative finding when the connection between knowledge of letters of the alphabet and reading was first proposed (Chall, 1967; Bond & Dykstra, 1967). It did not fit in with the current models of cognitive development. Adams (1990) gives four explanations why letter identification might be so predictive of later reading:-

1) A child who can recognise most letters with confidence will find it easier to learn letter sounds and spellings than a child who cannot;

2) The speed of letter naming is an index of the automacity of effortlessness with which letter recognition occurs. It is the first step on the road to the efficient, speedy word processing of fluent reading;

3) In general names are closely related to their sounds and so mediates to grapheme-phoneme association of the alphabetic principle;

4) The ability to letter name is indicative of an ability to respond to visual stimuli effectively and efficiently and this clearly differs from individual to individual.

In their discussion of findings from the Infant School Study the researchers write "This relationship between early and later attainment is not necessarily causal. For example, it cannot be assumed that it was because children had some knowledge of letters at age four that they read better than their classmates at age seven" (Tizard et al, 1988, p.168). The explanation that Tizard and her colleagues offer is that "...Learning to read is a complex process, involving not only recognising letters and words, but also being able to extract the meaning of a written passage... the evidence certainly suggests that as one aspect of learning to read, teaching letter sounds is likely to be helpful" (Tizard et al, 1988, p.169).

Durrell (1958) claimed that knowledge of letter sounds and names at school entry does not ensure success in acquiring a sight vocabulary but lack of knowledge produces failure. Thirty years later, Blatchford et al (1987) argue that the strong correlation between letter identification on entry to school and later reading probably reflected children's prior and more general acquaintance with written language. It seems that the importance of the association is becoming more widely accepted

among researchers. Quite contrary to Smith's (1973) assertion that skillful readers do not process individual letters, and from which fact he deduced that neither do beginning readers need this ability. Even if it was logical to argue that the skills of beginning and experienced readers are unitary, the work of Rayner and Pollatsek (1987) leads Adams (1991) to write

"In short, then skillful readers automatically and quite thoroughly process the component letters of text. They do so because their visual knowledge of words is built from memories of the sequences of letters of which the words are comprised. Conversely, because they do so, their orthographic knowledge is reinforced and enriched with each word they read. Ultimately, readers come to look and feel like they recognise words holistically because they have acquired a deep and ready knowledge of the orthographic patterns of their language" (p.23).

It seems logical that if it is so crucial an asset to fluent, skilled reading it must also be imperative to the novice. Recent work is clarifying this, that the value of the alphabet knowledge to the young child is dependent on its nature and quality. Bialystok (1991) in a recent study is beginning to unravel the differing levels in the skill of letter identification. The levels denote more advanced understandings of words and the symbolic nature of language. She says that it is only when children are able to appreciate that letters represent sounds that they understand that language is symbolic and so they are able to read. It is possible that children at this stage are in transition between emergent literacy and beginning conventional reading. The children who at school entry are able to identify and label individual letters, out of sequence, are further along the path towards this symbolic understanding than those able neither to discriminate between nor to label individual letters of the alphabet. They are also further towards reading than those merely able to recite the alphabet. Clay (1991) reiterates that letter discrimination is a necessary but not sufficient skill for reading progress.

For example, the importance of this skill is not, it seems, the 'cure all' in the answer to the teaching of reading. We know that directly teaching children the letters of the alphabet in pre-school has no positive effect (Gibson & Levin, 1975; Ehri, 1983a). It seems rather that this ability has to grow out of a wider, richer experience leading to this more focussed knowledge of print. Adams (1993) suggests that "..... For children who, on entering the classroom, do not yet have a comfortable familiarity of the alphabet, finding ways to help them is of first order importance. Even so, knowledge of letters is of little value unless the child knows and is interested in their use: Correctly perceived and interpreted, print conveys information. In keeping with this, children's

concepts about print are also strong predictors of the ease with which they will learn to read. Before formal instruction is begun, children should possess a broad, general appreciation of the nature of print" Adams (1993, p.207).

This is a clear interpretation of the transition phase of reading development as children leave emergent literacy and enter conventional beginning reading. The data from this study offer insight into this phase as described by Adams (1993). Chall (1979; 1983) proposed a developmental stage model of reading acquisition, through which the child processes print in qualitatively different ways. Most relevant to this discussion is the major distinguishing features between stage 0 (pre-reading stage) and stage 1 (initial reading or de-coding stage). In an updating of these terms it would be more precise to label stage 0 (the emergent literacy stage) and stage 1 (the beginning reading stage of conventional reading) (see Chapter 1).

In stage 0 children develop the pre-requisite visual and auditory skills required for reading acquisition, in addition to, the emergent literacy insights of the conventions of print. Stage 1 occurs when children associate letters with sounds. "The qualitative change that occurs at the end of this stage is the insight gained about the nature of the spelling system of the particular alphabetic language used" (Chall, 1979, p.39). Mason (1980) also proposes a stage theory through which the child progresses, slowly developing the ability to process print in qualitatively different and more advanced ways. Mason describes her phases as the context dependent, visual recognition and grapheme-phoneme stages. These descriptive phases divide Frith's (1985) logographic phase into two stages. Mason provides more detail of the context dependency of emergent literacy into the more refined, processing abilities of visual recognition and the development of grapheme-phoneme skills in the beginner conventional reader. The evidence for the existence of qualitatively distinct stages is born out by the experimental studies on the word recognition skills of older, poorer readers (Seidenberg & McClelland, 1989). However, Sulzby (1992) proposes that letter-sound knowledge precedes the understanding of the concept of a word, and comprehension, but that the child needs only some knowledge of each aspect, not perfect understanding, in order to make progress in conventional reading. She also maintains that the stages are not discrete because "...children may appear conventional with one text at one point in time and not with another" Sulzby (1992, p.295).

In the views of these researchers all mention the ability to identify and label the letters of the alphabet as a major developmental leap on the path to literacy for the young child.

The findings of this study are that children who come to school able to identify letters of the alphabet and are therefore advanced in their ability to process print are very much more likely to become readers. It may not necessarily be a more important understanding than concepts about print; it could well be the next stage. This is the most plausible explanation of these data. The correlations between Identification of the Alphabet and Concepts about Print with reading at the end of the year are r=.6 and r=.33 respectively.

The present study was able to predict with 80% accuracy from their entry skills those children who would be able to read by the end of the year. It is essential that reception class teachers are aware of this.

7.33 The predictive power of being able to write one's name at school entry

Less is written in the literature regarding being able to write one's name and its strong relationship with reading. The Infant School study (1988) found that handwriting skills, part of the assessment of which was writing their own name, were highly related to reading at 7 with a correlation of r=0.49.

Blatchford (1991) writes "...identifying and writing letters on entry to school both reflect a greater attention to written language and in particular to words and the constituent parts of words. And this greater awareness of written language before school is related both to better reading and writing three years later" (p.82). In the present study, ability to write own name is the second most powerful skill for predicting reading at school entry. Whilst the higher order skills of reading and writing operate with different processing skills, they are complementary to each other. In reading, the goal is recognition and an access to meaning is achieved through strategies of whole word shape, context and de-coding by grapheme-phoneme and orthographic processing. Writing is often letter by letter grapho-motor production. Both processes contribute to literacy acquisition as they develop side by side and are the mirror image of each other (see Chapter 1).

The place of writing in the young child's literacy development is confirmed by much evidence (Bissex, 1980; Ferreiro & Teberosky, 1982; Smith, 1978; Clay, 1972; Goodman, 1976). It is well described by Ferreiro when she writes, "...Let us accept that those children, when they write, make an approximate correspondence between sounds and letters. They may face orthography problems, but they do not have any

further problems with writing, because they are now functioning inside the alphabet system of writing" (Ferreiro, 1985, p.84).

The ability to write one's own name is only a step on the path to acquiring conventional literacy, but arriving at school with this skill is powerful, particularly if the child is also able to identify some letters of the alphabet. Writing one's name is complementing the two paths of development into the alphabetic phase of beginning reading (Frith, 1985) into a more refined, processing of print.

7.34 Understanding the meaning and conventions of print and its relative predictive power of later reading

Chapters 1 and 4 discussed the research findings on the necessity for the young child to grasp the purposefulness of the task in order to read (Vygotsky, 1978). She also needs to be aware of the conventions of print (Reid, 1966; Downing, 1979) and the language of instruction (Samuels, 1971). All these understandings are subsumed in Downing's (1979) generic term "cognitive clarity".

The relative predictive power of its presence or absence, when assessed on the Concepts about print test as an entry skill, is an intriguing issue. Clearly, in this study with a correlation of r=0.33, it appears not to be as valuable a measure as knowledge of the alphabet and the ability to write one's name. But is it a crucial pre-requisite attribute, and is its acquisition essential prior to the learning of more focussed and specific orthographic skills? This is the explanation offered in the discussion of these data. There are two issues to be addressed. Firstly, what was the test itself assessing? In this study the concepts about print measure was devised by the author based on the Marie Clay test 'Sand' and is to be found in Appendix 4.

Questions 1, 3, 4, 8, 9 and 10 explore the child's awareness of the conventions of print, and books, regarding orientation, where the story begins and ends, the direction of print and the "sweepback" of the line of text. Questions 6, 11 and 12 probe into more finely tuned understandings, such as how the last piece of speech uttered will be related to the last words read, and the child's awareness of what constitutes a letter. This last question refers to the sophisticated understandings that Mattingly calls "linguistic terminology". It is the confusion of terms such as letter and word, used constantly when teaching reading, that can be an impediment to successful, early mastery of the task. Johns (1980) investigated the difference in print related concepts between the groups of readers who were above average, average and below average.

Johns found that the differences in concepts of print for the three groups of readers were in the expected direction. What is pertinent to this discussion is that all groups of readers possessed book orientation and print direction concepts. The advanced readers were superior to the other groups in their possession of letter-word and advanced print concepts. Johns raises the point that the possession of these advanced understandings about print might have been gained through greater experience of literacy, but the awareness is necessary for further progress in reading.

Regarding the relative predictive strength of concepts about print and knowing the alphabet, it might be the fact that the test used in the present study was not sufficiently probing of the more advanced concepts about print. Johns' article ends in the hope that future research "...clarifies the patterns on the Sand (test), but also the development of new instruments to assess concepts about print, the reading process, and the language of instruction" (p.548).

A second issue, is regarding the type of orthographic awareness. The findings of this study, it might be argued, indicate that being able to identify letters of the alphabet is a valuable instrument to accompany a test assessing awareness of print and book conventions. Both understandings are crucial and refer to different, but complementary aspects of processing print. Identification of letters, is a step towards a more refined understanding of the nature of written language (Bialystok, 1991) as has been discussed earlier.

Understanding the communicative function of print and its conventions is a pre-requisite for learning to read. These insights are acquired in the emergent literacy phase, they occur over time and through meaningful exposure to print. Kroll and Wells (1983) found such 'knowledge of literacy' at pre-school to be strongly related to reading at 9 years of age. Tizard et al (1988) found that concepts about print at the end of nursery correlated r=0.27 with reading at 7 years of age.

The findings of the present study show that concepts about print at school entry correlated r=0.33 with reading at the end of the year. These understandings about print and stories are positively related when calculated independently with reading at the end of the year with a correlation of r=0.46. Their association seems to endure. An explanation why the relationship between reading and concepts about print appears to be stronger at the end of the year than as a predictor entry skill might be that it indicates the necessity for the child to possess both general and specific print awareness for reading to develop and to continue to develop. The stronger association between concepts about print and reading in this study can be explained by the fact

that the reading measures in the other studies are taken two years apart. In other words the present study relates concepts about print with reading at the end of the first year and the Infant School Study related concepts about print with reading at 7 years old after two years in school. Clay (1991) makes the point; the more skilled the reader the less important are concepts about print.

It is the intention here to argue the case regarding the relative predictive value of knowledge of the alphabet, writing one's name and concepts about print and to offer an explanation of their inter-relationship. Concepts about print at school entry accounts for a significant 2% of the variance of the equation when regressed on to the reading score at the end of the year. Knowledge of the alphabet accounts for 39% and writing one's name a further 5%. However, at the end of the year understandings about print are still contributing 3% of the variance (see Table 10). This is despite the low variability of the concepts about print scores at the beginning of the year (S.D. 2.79) which affects its contribution to the variance. The relationship with ability to read is positive and consistent. These data suggest that emergent literacy and beginning reading are two phases in the continuum of literacy acquisition.

Concepts about print are slowly developed through the emergent literacy phase; they are the crucial pre-requisite to the ability to read. A developing understanding of the symbolic nature of written language (Bialystok, 1991) of which ability to identify letters of the alphabet is the first indication, can only be born out of exposure to print and text through meaningful, interactions with a supportive adult. Encompassed in this understanding lie attitudinal aspects, such as motivation, most profitably gained through meaningful and pleasurable early encounters with print.

More refined orthographic understandings of the processing of print are indicated through knowing the alphabet and writing one's name at school entry. These skills have a stronger relationship with reading in the analyses because, it might be argued, they demonstrate a more advanced stage in the acquisition of conventional literacy, as has been suggested earlier.

7.40 The continuum of development through emergent literacy into conventional beginning reading

Regarding the acquisition of alphabet knowledge and concepts about print, Table 16 in Chapter 3 tabulates the number of children in the four categories with both the number and the percentage of the group who are able to read by the end of the year. As with

the Neale's Analysis of Reading score an arbitrary cut off point of one point below the mean score was taken.

The group with the highest proportion of readers within its membership are those children possessing both high scores of concepts about print and knowledge of the alphabet. The high number of children in this group provide statistical evidence that it is far more likely to become a successful reader within the year if the new school entrant has both a well developed understanding of print and its conventions and an ability to identify letters of the alphabet. This it will be remembered is borne out in the other analyses. The group of children with a high score on alphabet knowledge and low concepts about print provides both evidence for and contradiction against the stage theory proposal.

Firstly, the counter argument concerning the 8 children out of the 11 in the group who are scoring on the Neale's Analysis of Reading in the July. It may well be that these cases are more apparent than real due to the cut-off point. These 8 children may have achieved a low concepts about print score by scoring one point less on the test, or achieving less well than they might on the day of the assessment. It also is possible that these children, due to their superior letter knowledge, were assumed to be functioning more efficiently than they actually were by their teachers.

The evidence for a stage theory proposal is that the number of children achieving literacy through the sequential acquisition of concepts about print and then knowledge of the alphabet is statistically greater than a chance occurrence. These data show that this is a dominant route to reading.

Further empirical work is needed to determine beyond doubt whether appreciating the conventions of print and text are both a necessary and pre-requisite understanding prior to the acquisition of knowledge of letters of the alphabet.

The 11 children in the previous group compares with those who meet the criteria of the reverse category. Namely, the 75 children who came to school possessing high concepts about print and low alphabet knowledge. These children are still firmly in the emergent literacy group, they have acquired a reasonable understanding of the nature of stories and characteristics of text. The number of children in this category, is unlikely to have occurred by chance (see 3.92) and it is the suggestion of this thesis that this group is one of the two least advanced groups. Bialystok (1991) proposes that whilst children are able to "..... point to the text as the story's source, they do not necessarily understand the immutability of the meanings represented by that text"

(Bialystok, 1991, p.87). This only occurs when children understand that "..... letters are not objects but simply placeholders written down to signify a particular sound" (p.87). She asserts however that the later understanding emerges from the experience and knowledge of text.

It is known and has been discussed, that children when explicitly taught the alphabet do not necessarily become early successful readers (Gibson and Levin, 1975; Ehri, 1983a). The continued relationship between concepts about print and later reading identified in this and other studies seems to indicate the essential nature of this knowledge.

7.50 The characteristics of those children able to read by the end of the first year of school

The main findings of this study are that those children who enter the reception class with well developed alphabet knowledge, ability to write their names and concepts about print, and if they adjust quickly to school, have an 80% chance of reading, at least, in line with their chronological age, by the July. These are important findings regarding the entry skills that so powerfully predict reading a few months later.

Of the sample of 191, 54% were reading well enough by the end of the year to score on the Neale's Analysis of Reading, others had made progress in the reading related skills. Of these readers, 93% were described as adjusting well to school or were settling. Only 3% of the whole group who had been described by their teachers as unsettled, half way through the Autumn Term, were reading by the July (for full details see Table 18 in Chapter 3).

That those children who found school bewildering or unpleasant, did not succeed in the task of learning to read, is not surprising. Wells and Raban (1978) found that those children with higher scores on the Under-Reacting Scale of the Bristol Social Adjustment Guide were likely to have lower measured reading attainment at 7 years of age. Those researchers found that the quietly, miserable child was under-functioning and continued to be so through her second year because of her poor school adjustment. This appeared to be the case more frequently than the child who exhibited behavioural problems in a more overtly 'acting out' behaviour. The Infant School Study did not assess adjustment to school. Clark (1976) found that her early readers had settled happily into school. Given the literature now emerging regarding the difficulties that school presents to four year olds (Cleave & Brown, 1991) it is

interesting in the present study that the child's age at school entry is not associated with how well she became adjusted to the school situation (r=.004). Some of the children were only 4 years and 1 month at the time of the assessments.

The complexity of the reading task has been discussed in detail. It is not therefore surprising that the child needs to feel secure and happy in order to fully deploy all her faculties to the challenge of learning. Teachers need to be aware of the evidence that suggests the importance of positive adjustment to school, and to consciously consider admission policies, the reception class environment and organisational structures.

The relationship between the BOEHM test of basic concepts and reading is a strong one when measured both at the beginning of the year and the end of the year. The correlations between the September and July scores of the first BOEHM booklet and Neale's Test score in July are r=0.41 and r=0.48 respectively. The analysis of the exit skills regressed onto the reading score indicated that the score of the BOEHM Booklet 2 accounted for 23% of the variance. In other words how intellectually mature the child was at the end of year contributed more than spoken language, understanding print and knowing the alphabet. It can be assumed from this that how able the child is, plays a large part in her reading ability. This makes perfect sense to parents, and professional educators. It does not appear to be so obvious to those currently responsible for educational legislation.

7.51 Whether the first year of school makes a difference

Research evidence confirms that the first year of mainstream school is crucial. Tizard (1993) makes a powerful case and she bases her argument on the evidence from the Infant School Study. It was the data collected during the reception year in which the greatest differences in progress made by whole classes of children were found. The reason for this Tizard attributes to the varying effectiveness of the teachers, due to the fact that the entry scores of the children had no statistical significant difference between the reception classes. Wells and Raban (1978) and Durkin (1974-75) also point to the potential benefit of the early years of schooling.

In the present study it was possible to group children based on their entry scores into readers or non-readers with 80% accuracy (see Table 14, Chapter 3). This means also that 1/5 of the children made greater or less progress than expected due to an external influence, whether teacher or parent. Of the 102 children in the readers

group, 19% could not have been predicted to be reading by the July from their entry skills alone.

Because parental influence might be considered stable over the 10 months of the study, it is argued that teachers have a potentially measurable effect over this short but formative period. It also appears from the data that the 89 non-readers, 18% of whom it might be thought from their entry skills to be reading by the end of the year, were likewise mis-placed. In Part 1 of the study some of the teachers were effective, others not so effective. Partly in order to provide insight into the possible causes for this variation Part 2 of the study was carried out.

7.60 The aim of sections 7.60 onwards

The second section of Chapter 7 will discuss the findings of the data collected by postal questionnaire survey in Part 2 of the study.

An investigation was conducted into how the 62 reception teachers fostered their pupils' reading development through

i) their declared aims for the first year of school;
ii) their understandings of the reading process;
iii) their attitudes to literacy acquisition; and
iv) their declared classroom practice, especially in its relation to entry skills.

7.61 The priorities of the reception teachers' surveyed for the first year of school

Given the emerging evidence to support the value of an effective early start it is perhaps surprising that over 50% of the teachers surveyed claimed that the main focus of their work in the first year of school is spent in socialising the child. It may have been that these teachers interpreted social aims as settling the child (which would accord with the findings of Part 1 of the study). The aim to help the child to adjust quickly to school is to be applauded given that it is in an "...undemanding, anxiety free situation, the child will learn quickly" (Van Lierop, 1985, p.74).

However, this could mean that they felt the child had to be made to conform to this strange institution called school (see Table 20, Chapter 6).

There is evidence from the two other studies cited in comparison with this one, Wells and Raban (1978) and Tizard (1988), that progress in the early stages of school is proportionally and positively related to the extent of curriculum coverage.

There has been a noticeable shift, however, in the focus of the teachers' declared aims between the Infant School Study and this study. Tizard (1988) found that only a fifth of the reception teachers described their aims as mainly academic compared with nearly half in the present study. The reception teachers surveyed in 1991 claimed that downward pressure from a centrally controlled curriculum, and its accompanying assessment procedures had resulted in their change of emphasis. This it could be argued is a positive benefit of the National Curriculum. It is unclear from these data whether the perceived pressure is also affecting the amount of time spent on literacy based activities which appears to be depressing reading standards (Gorman and Fernandes, 1992).

7.62 Reception class teachers' understandings of the literacy process

An important consideration, when exploring literacy teaching in the first year of school, is the content and extent of the knowledge base of reception class teachers. The perspective taken for this study is the interactive model of the reading process (see Chapter 1), but is that shared by the majority of the practising reception class teachers surveyed?

It would appear not. The responses to the four questions (4, 5, 6 and 8) aimed at eliciting information on this issue provided enlightening data. The teachers approach the task of developing their new pupils' reading with a broadly developmental perspective (in the Hackney Literacy Study terminology). Many articles (e.g. British Psychological Society Education Section Review 16, 1992) have been pointing to the detrimental influence of the views of Goodman and Smith on the practice of teachers. It would not be the intention to echo this accusation here but rather to agree with Stainthorp (1992) that "...good theory developed by cognitive psychologists is not actually filtering down to the people who need to know and who could validate theory in the teaching strategies - the teachers in the classrooms" (p.21).

There is evidence from this study that the inter-relationship between the 'top-down' and 'bottom-up' processing skills is not acknowledged by the reception class teachers surveyed. Much the greatest emphasis and value is placed on the important syntactic

and semantic contextual cues used in the meaning making strategies by the beginning reader, as she is supported into this processing through motivation and enjoyment. The teachers do not appear to understand, even more crucially as the child develops from emergent literacy through to beginning reading, the need for 'bottom-up' code breaking skills. The child needs to progress through the de-coding stages from logographic, to the increasingly refined phases of alphabetic and orthographic processing in order to achieve fluency and automacity in word recognition. Print-focussed, orthographic abilities are essential (Adams & Huggins, 1985).

When asked what attribute facilitated learning to read, those teachers surveyed placed more emphasis on the child's eagerness to learn and the generic understanding of the conventions of print. In giving the criteria to assess reading development teachers mentioned 89 times enjoyment and familiarity with books (44% of the mentions). Only 6.4% of the mentions were concerned with knowledge of the alphabet. Much the same pattern remains over the hopes of what parents or carers might have taught the pre-school child. When provided with the four main entry skills found in Part 1 of the study to be so predictive, of the reception teachers surveyed 67% ranked spoken language (3 or 4 most important) 60% ranked concepts about print 3 or 4, with only 33% of teachers indicating that they thought knowledge of the alphabet had a prior claim. This study supports the work of Marsh et al (1980) and Frith (1985) by showing that a crucial stage in development of reading is when children begin to use alphabetic de-coding skills. Two thirds of the reception class teachers surveyed by the postal questionnaire appeared to be unaware of this. This is the most important finding of Part 2 of the study, and will form the basis of the recommendations to be made.

This finding is reaffirmed by the data resulting from the inquiry into the declared attitudes of the teachers on the process of literacy.

7.63 Reception class teachers' responses to the Attitude Questionnaire (Hackney Literacy Study, 1988)

Of the 62 teachers, 7, through their responses, were calculated to be at the traditional end of the continuum; the remaining 55 have been described as developmental or intermediate. The 44 who fell into the most extreme developmental stance were likely to have disagreed strongly with the statement that the 'Teaching of phonics is important for successful reading'. This is strikingly at odds with the findings of Part 1 of this study. The construction of the attitude scale is weighted towards the

developmental viewpoint due to the number of questions identifying that perspective. However, these data do support the tendencies of teachers to favour this approach, as interpreted through their responses to the questions (4, 5, & 6) discussed in 7.62.

Interestingly, there was no consistent pattern between their declared attitudes and their ranking of the four given entry skills in question 8.

There seemed also little consistency between their declared beliefs and the approaches used by the teachers to develop literacy. This fact provides further evidence that the teaching of reading is not underpinned by a thorough understanding of the reading process.

7.64 The different methods of teaching reading used by the reception teachers surveyed

The use of the 'real book' approach proved the most popular method as it occupied the highest percentage (20%) of the responses. Because 70% of the teachers were described as possessing a developmental approach, the 'real book' or 'whole language' approach might have been expected to be higher.

The overt message is one of diversity and eclecticism. Much is to be gained by the continuation of a multi-approach pedagogy especially in the early stages of conventional reading. This could further be described as a 'sharpening-up' or more structured teaching approach, rather than rigid orthodoxy.

Academic argument continues to debate the relative merits of look and say and alphabetic letter/sound teaching.

The Balance Manifesto (1991) supports the HMI Report (1991) that the best schools used eclectic methods in a structured, systematic method. Consistent with the standpoint emerging from this study is that both 'bottom-up' and 'top-down' processing skills need to be consciously and systematically taught within a context of understanding and meaning. As with all learning, we neglect at our peril the need for young children to embed their learning in a context of purpose and 'human sense' (Donaldson, 1978). Consistent with the line of argument proposed in this thesis is the developmental nature of word recognition. Children will rely on whole word processing initially whilst in the logographic phase. 'Look and say', and the distinctive and distinguishing features of shapes of words, will be especially valuable to children

initially in the transition stage of beginning reading acquisition (Juel 1991). As these new readers move to the alphabetic phase, grapheme-phoneme associations need to be individually and appropriately taught, most profitably by purposeful writing. Hence the very real advantage to teaching reading through book making with and for children, promoted by 15% of the approaches mentioned. Stainthorp (1992) adds her voice to the many in this debate with the caution that advice does not always cross the Atlantic successfully. We begin teaching reading significantly earlier than in the U.S.A. Whilst age did not contribute to the variance in the analyses in Part 1, there is a great difference between the cognitive maturity of a child of 4 year 1 month (the youngest in this study) and the 6 year olds in Grade 1 in the USA.

Stainthorp suggests that what is also emerging as the focus of interest is the way that teaching is matched to the child's individual strengths and preferred strategies for de-coding. There is little point in monitoring and assessing reading (Turner, 1991) if the teachers are unable to valuably use the information to develop the entire range of strategies in the children. Assessment needs always to be followed by individually tailored teaching such as recommended by Clay (1985) and not only for those infants falling behind.

7.70 The value of matching teaching to the individual

Schools have much to gain by considering the ways that children learn in the emergent literacy phase. The acquisition of literacy must take place in a learner-centred environment. Van Lierop (1985) claims that the child needs an adult who can observe her frame of reference and adapt materials and methods to suit her.

"Informed teachers are capable of learning more about students (children) from careful observation and interaction than they can from test scores" (Goodman and Altwerger, 1981, p.74 as cited in Van Lierop, 1985).

Clay (1972; 1985; 1991) has long proposed careful, recorded observation of overt behaviours, in the very early stages of beginning reading, that will inform the next step in teaching. "Sensitive and systematic observation of behaviour is really the only way to monitor gradual shifts across imperfect responding" (Clay, 1991, p.233). Clay lists her signs of a developing inner control in the areas of:

i) using language
ii) gaining concepts about print

iii) attending to visual information
iv) hearing sounds in sequence

The beginning reader gradually learns how to integrate the processes and the teacher needs to monitor the progress analytically. Clay says, "With meaning as both guide and goal, the reader checks what he thinks the text will say with visual information, and by carrying out analytic manipulations. The young reader has several alternative ways of functioning according to the difficulty level of the material. If he cannot grasp the meaning and check the print with higher-level strategies he can use any of the several lower-level strategies. A teacher observing and thinking about the reader's behaviour can build some theory of how the child is working on the task 'in his head'" (Clay, 1991, p.235).

This sensitive, highly tuned approach to teaching the early stages of reading does not feature in most of the responses of the reception class teachers surveyed. The majority seemed to favour the immersion method believing that interest alone in beautiful, picture books will guide the child through the alphabetic and orthographic stages of reading acquisition (Frith, 1985).

However, two of the most effective teachers in Part 1 of the study indicated through their responses on the postal questionnaire that they were able both through long experience of teaching reading, and through knowledge of the literacy process, to closely match their teaching to the individual child's developmental stage. (For a full discussion see Appendix 25.) The pupils in the two classes arrived at school with entry skills in line with the mean for the whole sample. At the end of the year the children had made striking progress in literacy.

It has been acknowledged that self-report is not the most reliable form of evidence. But the questionnaire probed not just declared practice in the teaching of reading but also provided insight into the reception class teachers' knowledge base of the literacy process. Both teachers mentioned the essential pre-requisites of conventional beginning reading:

- Concepts about print;
- Phonological awareness and ability to word build;
- Ability to sequence a story;
- Ability to concentrate.

In addition to their accurate understanding of the skills of fluent reading, both teachers were able to give clear indication of the observable behaviours that indicate reading development from emergent literacy to conventional beginning reading. These reception class teachers provided a list of indices, such as the child:-

- shows interest in choosing books to look at and enjoy (*i.e. demonstrating motivation, concentration and enjoyment*);
- shows interest in seeing own stories written and in reading them back (*i.e. ability to remember, understand encoding/decoding process*);
- is able to concentrate for periods of time;
- is able to match pictures, picture to word, word-to-word (*i.e. has developed visual discrimination and also understanding of the symbolic nature of language*);
- "pretends" to read using finger to word (*i.e. is able to act like a reader, understands that speech is continuous, written language is divided into segments called words*).

Both teachers then demonstrated, unequivocally, that they were able to teach to the individual child's developmental stage. One wrote "I try to foster a reading community within the classroom. From that broad base I would try to tailor my teaching aims for each child". These two very successful teachers may not have been teaching in the way that they report in the questionnaire, but their children made demonstrable and calculable progress on the measures used to assess literacy progress.

In comparison, the other classes of children in Part 1 of the study did not progress as rapidly. The sixty remaining respondents to the questionnaire were not able to articulate their knowledge bases so clearly.

As Stainthorp (1992), in response to Turner's (1991) criticisms of the teaching of reading, suggests when teachers are aware of the findings of cognitive psychology they will dovetail rational teaching to the development of cognitive strategies in the children being taught. This justifies teachers intuitive understandings about the teaching of reading through a combination of 'bottom-up' and 'top down' processing and not relying solely on the latter, as has been fully discussed.

The evidence (from Shankweiler and Liberman, 1972 to Goswami & Bryant, 1990) shows that skill at segmentation accompanied with the corresponding phonological awareness seems to be of major significance in developing the child's literacy acquisition into Frith's orthographic phase. Teachers need to know this, in order to be supported through an understanding of the empirical evidence into an eclectic approach to teaching reading tailored to the individual child.

The introduction of national assessment at 7 years of age, had led to suggestions that 'baseline' assessment is conducted at school entry (Blatchford and Cline, 1992). The findings from this study would concur, not only to improve curriculum coverage but to enable a closer match of teaching of reading to the child's strengths at school entry.

A valuable starting point, from the findings of this study, would be for teachers to use modified versions of the most valuable assessments used on the sample of children. Those would be, on school entry, the following:

i) An adapted version of the BOEHM Test of Basic Concepts

ii) Labelling the letters of the alphabet

iii) A modified concept about print test (see the assessment of literacy by Ferreiro and Teberosky (1982) in 4.40)

iv) A piece of writing, unassisted or copied, included the writing of the child's own name

These simple assessments would provide the reception class teacher with valuable insight as to where each of her new pupils are within the continuum through emergent literacy to conventional literacy development. From this point her teaching could carry the children forward.

7.80 Conclusion and Recommendations

This study focussed on the stages of emergent literacy and conventional beginning reading in order to investigate the child's progress in literacy acquisition as she enters school. The design of the present study is informed by research findings into both emergent literacy and reading acquisition.

The investigation monitored the child's reading development through the emergent literacy phase and into conventional literacy acquisition through her first year of school.

The main findings are:

1) Children arrive at school with a range as wide as five years in their functioning regarding literacy related skills and intellectual ability.

2) Intellectual ability, as might be expected, is highly correlated with reading at the end of the first year of school.

3) The three literacy related skills, knowledge of the alphabet, ability to write name and concepts about print, are highly predictive of success in reading by the end of the first year in school. The relationships with reading are strong both independently and in association.

4) Ability to identify letters of the alphabet at school entry is the most powerful, of all the entry skills to predict early success in reading.

5) The varying distributions of the entry skills, concepts about print and knowledge of the alphabet, within different groups of readers and non-readers indicates that both are valuable to reading. It is offered as an explanation of these data that the ability to identify letters of the alphabet at school entry seems to demonstrate a further stage of development into the beginning reading stage of conventional literacy. The ability to write one's name provides additional evidence of a more advanced level of print processing.

6) Children were placed into groups of readers or non-readers with 80% accuracy on the extent to which they have acquired these skills by the time they come to school.

7) Children who do not adjust to school are four times less likely to be able to read at the end of the year.

8) It might be argued that teachers of the 191 children in the sample, did have an effect on the progress of their pupils. Within the 20% of "misplaced" children some made more and some made less progress than might be expected from their entry skills.

9) The majority of the reception teachers surveyed ranked the importance of the entry skills in the reverse order to those found to be most valuable in Part 1 of the study.

10) Reception teachers use approaches to reading that develop the children's understandings of print and its usefulness. They foster enjoyment of books. However, they do not appear to value the importance of phonological and orthographic awareness in children's early de-coding attempts. They are not therefore able to match their teaching of this skill explicitly to the child's strengths in order to meet their literacy needs.

The main recommendations are that efforts are made both, at initial and in-service levels of teacher education, to inform teachers of the importance of the findings regarding children's print awareness in the early stages of reading.

Teachers in initial training need to be informed fully on the theoretical knowledge base of the reading process. Reading is a complex skill and for too long it has been over-simplified by polarised position taking of research findings. Beginning teachers, particularly those teaching reading to the very youngest of pupils need to adopt the interactive model (Rumelhart, 1985). This model (see Chapter 1) has at its heart the 'message-centre' notion that deals with input from many sources. These knowledge sources are both specialised regarding written language such as the structure of stories, language patterns and sound-symbol relationships and also generalised, about the world. Clay (1985) regards that the child's task is to integrate these sources in order to achieve fluent reading. The careful, diagnostic monitoring of reading behaviours in order to support the structured teaching of reading as proposed by Clay in Reading Recovery needs to be promoted in an adapted and manageable form for beginning teachers.

The findings of this study have been explained by the proposal that there is a developmental pathway through which the majority of novice readers progress. The understanding of both the communicative function and conventions of print develop during the emergent literacy phase into a gradually more and more refined, focussed processing of print in the conventional, beginning reading phase. It is suggested that coming to school knowing the letters of the alphabet and able to write your name denote the transition between these two main phases. Perhaps it is the beginning of Frith's (1985) alphabetic stage. It is proposed that a true understanding of the symbolic nature of the alphabet (Downing, 1979; Bialystok, 1991) can only arise through an earlier recognition of the purpose and immutability of print. Teachers need to understand this.

Teachers need to be aware that the child's ability to identify and label letters of the alphabet is a valuable index for assessment, as it denotes an important intellectual leap, which helps to inform reading instruction in the earliest stages. This is especially important in the first year of school.

The first year of mainstream school is crucial. Reception teachers have great potential to affect the progress of their pupils. Through warm, sensitive teaching they are well placed to capitalise on the considerable gains made in the emergent literacy phase. Reception class teachers need especially to be aware of those children already entering the beginning reading phase of conventional literacy in order to foster their development through closely matched teaching. This study has demonstrated the need to improve the effectiveness of teachers through this knowledge base.

Certainly, there must be no narrowing of the reading curriculum (Donaldson, 1989). The breadth of approach that is currently offered by the reception class teachers surveyed must be applauded. The full exposure to picture books and colour-coded reading schemes in conjunction with a combination of the phonic teaching, word recognition, 'top down' skills through the psycholinguistic approach must continue. The writing and making of books with children, for children and by children, is a powerful way into phonological and orthographic awareness, and is to be encouraged.

The findings of this study point to the necessity for a wider recognition of the developmental stages of the processing of print in order to improve the teaching of the very early stages of reading. Reception classes need to be taught by the most experienced and knowledgeable individuals on a school's staff. The emphasis during this vital year should be to focus on the individual child, to assess her stage of reading development and to tailor a literacy programme that will enable progression towards independent, fluent reading by the end of the first year for the vast majority of the children. If this is achieved it will enable all children to have full access to the whole curriculum throughout their years of schooling.

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APPENDIX 1.

University of London Institute of Education Confidential

School Reception Class Questionnaire

We are interested in finding out how many of the children entering the reception class this term are having difficulties of one kind or another at school and would like your opinion as their class teacher. Would you please rate this child on each of the following topics by ringing the number against the statement which you think most applicable. Try to rate each section independently.

Child's name ..... Sex ..... Date of Birth .....

---

1. Settling in at school

Has settled very well, seems happy in school 4

Has settled quite well, but occasionally shows signs of stress 3

Is gradually settling in but unhappiness and anxiety are still fairly frequent . 2

Is not settling at all well, is unhappy and unwilling to stay in school 1

---

2. Cooperation with other children

Very cooperative (usually quite willing and able to cooperate well e.g. taking on roles in dramatic play, taking share of responsiblity in group activity) 4

Fairly cooperative (achieves simpler form of cooperation only, e.g., sharing materials, taking turns, taking part in simple class games, etc.) 3

Can be cooperative if pleases, but frequently finds difficulty in sharing materials, taking turns 2

Uncooperative (cannot or will not share materials, take turns in play, class games, etc.. May disrupt activity of others or be afraid of other children) 1

---

3. The child's relationship with you, the teacher

Has a very friendly and responsive relationship 4

Is friendly and responsive on the whole 3

Is occasionally responsive but never initiates contact 2

Uncertain in contacts - shy, withdrawn or hostile 1

---

4. Level of concentration

Concentrates very well for quite long periods; ignores distractions .. 4

Usually concentrates quite well, but sometimes loses interest and attention wanders 3

Seldom able to concentrate for long but occasionally something catches interest 2

Usually lacks concentration, e.g., concentrates for a few minutes only, easily distracted 1

---

5. Use of play materials

Play usually leads to end product (e.g. model or painting) or successful completion of activity 4

Play sometimes leads to end product/successful completion of activity 3

Play rarely leads to end product or successful completion of activity 2

Almost entirely unable to use play materials constructively 1

---

6. Self Reliance

Likes to work things out for self; seeks help from the teacher or other children only as a last resort 4

Will cope unaided with the straightforward or reasonably familiar but soon looks around for help when a situation is difficult or novel 3

Will attempt very little without guidance or reassurance from the teacher 2

Seems content to remain helpless and therefore dependent on the teacher 1

---

7. Verbalising ability in school work

Able to describe own thoughts and actions fluently 4

Generally able to describe own thoughts and actions but further questions often needed to make meaning clear 3

Can form simple sentences only and has poor level of vocabulary to describe thoughts and actions 2

Is incoherent and rambling or remains silent 1

---

8. Following instructions

Never has much difficulty in understanding an instruction or request from the teacher 4

Grasps the meaning of a complex or lengthy instruction only if it is repeated 3

Sometimes the teacher has to repeat even brief or simple instructions before he/she understands 2

Several repetitions are usually necessary before he/she understands an instruction or request 1

9. Ability to cope with personal needs

Can dress self and care for ordinary toilet needs without assistance . 4

Seldom needs assistance with these activities 3

Is beginning to cope with clothing and toilet needs but may frequently ask for assistance 2

Requires constant help if these needs are to be taken care of 1

---

10. Sociability

Very friendly and responsive to other children 4

Friendly and responsive to other children on the whole 3

Somewhat isolated. Rarely initiative contact with other children 2

Very isolated. Has great difficulty relating to other children 1

---

11. Physical Coordination

Very well coordinated and physically agile 4

Well coordinated on the whole 3

Rather uncoordinated. Tends to be clumsy 2

Very poorly coordinated. Very clumsy 1

---

12. Fine motor control

Very controlled use of pencil for drawing or writing 4

Is able to use pencil for drawing or writing with moderate control ... 3

Has some difficulty using a pencil for drawing or writing 2

Has great difficulty using a pencil for drawing or writing and has very little control 1

IN GENERAL would you say that this child is

Coping very well with school 4

Coping adequately with school 3

Having some difficulty coping with school (causing some concern to you) 2

Having major difficulties coping with school (causing a lot of concern to you) 1

Are there any particular comments you would like to make about this child?

Thank you for your

Appendix 2.

British Picture Vocabulary Scale.

Reliability and Standard Errors of Measurement

All measurements, whether they be of length, time, speed or psychological characteristics, are accompanied by some amount of error. In the case of tests, the error can be due to a variety of factors, some arising from the test (*intrinsic factors*) and some from outside the test (*extrinsic factors*). Intrinsic factors include any flaws in items selected for the particular test and any ambiguities in the scoring procedures. Extrinsic factors include the variations among examiners and fluctuations in mood and performance of the subjects. In general, these extrinsic factors exert a greater influence when the testing takes place on more than one occasion.

The extent of these measurement errors can be assessed using different measures of reliability. Reliability can be defined as the proportion of the total test variance which is not due to error factors. It is a measure of the extent to which the test results are replicable. For this reason the reliability of a test is often assessed by administering it on two occasions and correlating the two sets of results. This is known as *test-retest reliability*. A second type of reliability is *alternate form reliability* which relies on the correlations between different forms of the same test. Both of these measures include the errors due to extrinsic factors as well as intrinsic factors.

It is also possible to derive a different type of reliability coefficient which mainly takes account of the error due to intrinsic factors. This is known as a measure of *internal consistency*. One type of internal consistency, known as split-half reliability, is calculated by obtaining scores for the odd and even items separately in a test and correlating the results. Since this measure of internal consistency is likely to include only a small amount of error due to extrinsic factors, it tends to be higher than test-retest and alternate form reliability. Whereas the test-retest and alternate form reliability give an estimate of the extent to which test scores would agree if testing were repeated, the internal consistency measure gives an assessment of the accuracy of a score derived from one testing occasion.

The reliability of the BPVS has been assessed principally from the internal consistency of the tests. For each form, there is a measure of the split-half reliability of the test. There is also the correlation between the Short Form and a block of items from the Long Form, a measure of inter-form reliability.

The traditional measure of split-half reliability (together with other measures of internal consistency) is not appropriate to a test which uses basal and ceiling rules, such as the BPVS tests. This is because the early items which are assumed correct and the later items which are assumed incorrect would distort the inter-item correlations. To avoid this problem, it is necessary to consider only those items which an individual attempted. In order to do this, for each subject, the number of items answered between the basal and ceiling item were divided into odd and even numbered sets. These two sets of items were scored separately. Using the previously established difficulties of these items, an 'odd item ability' and an 'even item ability' were also calculated *based only on items attempted*. For each age group, the two sets of raw scores were correlated and the two sets of ability scores were also correlated. The resulting split-half correlations were corrected using the Spearman-Brown formula to calculate the reliability for double the number of items and therefore give measures of reliability for the full form. Children with perfect or zero scores on either half of the test were excluded as no ability score could be calculated for them.

Table 8 shows the mean number of items in the Short Form attempted for each age group, and the corrected reliability coefficients for both raw scores and ability scores. This shows that the subjects attempted approximately 14 items each, and that the reliabilities are in the range .75 to .86 (median .80), until the age of 16. At this age the reliability declines sharply due to the small number of items on the Short Form effectively measuring these high ability children. At this age, the early items attempted from the starting points are answered correctly by the vast majority of subjects.

Table 9 shows the split-half reliability coefficients for each age group for the five blocks of the Long Form used in calibrating the items. Some age groups are shown for two adjoining blocks of items. These reliabilities are again internal consistency statistics and were calculated from the odd numbered items and the even numbered items. For both sets of items, ability scores were calculated for each student and these two sets of ability scores were then correlated. Subjects with perfect or zero scores were excluded. The correlations were corrected using the Spearman-Brown formula to calculate the reliability for twice the number

Appendix 2.

Table 8
Reliability of BPVS Short Form by Age Groups
(Calculated from Raw Scores and Rasch Ability Scores)

Age Group	Mean Number of Items Attempted	Split-half Reliability Coefficients Ability Scores	Raw Scores
3-0 to 3-11	13.4	.83	.84
4-0 to 4-11	14.0	.84	.83
5-0 to 5-11	15.6	.79	.79
6-0 to 6-11	14.5	.83	.83
7-0 to 7-11	14.0	.78	79
8-0 to 8-11	14.0	.81	.82
9-0 to 9-11	14.7	.77	.77
10-0 to 10-11	14.7	.84	.84
11-0 to 11-11	14.8	.80	.80
12-0 to 12-11	14.1	.86	.88
13-0 to 13-11	14.4	.80	.82
14-0 to 14-11	14.0	.75	.77
15-0 to 15-11	13.7	.79	.80
16-0 to 16-11	13.8	.68	.74
17-0 to 17-11	13.4	.41	.42
Median value	14.0	.80	.80

Reliabilities were calculated by computing odd/even correlations between raw scores and ability scores based on items attempted between basal and ceiling. The correlations were then corrected by use of the Spearman-Brown formula.

Children with perfect or zero scores in either half of the test were excluded as no ability score could be calculated for them.

Table 9
Reliabilities of BPVS Long Form by Item Block by Age Groups

	Age Group	N	Split-half Reliability Coefficients
Item Block 1	3-0 to 3-11	95	.94
1 - 45	4-0 to 4-11	96	.92
Item Block 2	4-0 to 4-11	28	.84
36 - 80	5-0 to 5-11	90	91
	6-0 to 6-11	71	.90
	7-0 to 7-11	22	.86
Item Block 3	7-0 to 7-11	28	.91
71 - 110	8-0 to 8-11	35	.92
	9-0 to 9-11	35	.85
	10-0 to 10-11	38	.95
Item Block 4	11-0 to 11-11	36	.95
96 - 140	12-0 to 12-11	53	.93
	13-0 to 13-11	38	.92
Item Block 5	14-0 to 14-11	22	.93
111 - 150	15-0 to 15-11	47	.87
	16-0 to 16-11	40	.87
	17-0 to 17-11	45	.70
Median value			**.91**

Reliabilities were calculated by computing odd/even correlations between ability scores. The correlations were then corrected by use of the Spearman-Brown formula.

Subjects with perfect or zero scores in either half of the test were excluded as no ability score could be calculated for them.

of items, i.e. the whole block. Because the main intention of the blocks for the Long Form was to calibrate the items, the numbers in each age group are small, and the resulting reliabilities should be treated with some caution. However, these split-half reliabilities are in the range .70 to .95 with a median value of .91. These, as expected, show a higher reliability than the Short Form. This is due to the increased number of items attempted and the greater concentration of items of the Long Form in the correct difficulty range for the subjects.

It should be noted that these reliabilities were not calculated using the full Long Form with basal and ceiling rules. However, since the number of items attempted by subjects is similar to the expected average number of items attempted when using basal and ceiling rules, these reliabilities provide the best estimate of *internal consistency* for the Long Form.

The correlations between (1) the Short Form Rasch ability scores and the Rasch ability scores from the Long Form and (2) the Short Form raw scores and Long Form raw scores are shown in Table 10. Although not a true inter-form reliability, because the full Long Form was not used, these correlations approximate the inter-form reliability since the number of items in the Long Form

Appendix 2.

would be of the same order of magnitude. The correlations are shown for each age group. Where subjects in the same age group attempted different blocks of items, their results have been combined. These estimates of inter-form reliability include the errors due to both intrinsic and extrinsic factors and tend therefore to be lower than the internal consistency measures of either the Short or the Long Form. The median value is .64, and the range of correlations is from .28 to .78.

Table 10
Correlations between Scores Derived from the Short Form and a Block of Items from the Long Form shown by Age Groups (Ability Scores and Raw Scores)

Age Group	N	Correlation Coefficients	
		Ability Scores	Raw Scores
3-0 to 3-11	95	.56	.55
4-0 to 4-11	124	.59	.57
5-0 to 5-11	91	.65	.65
6-0 to 6-11	73	.54	.54
7-0 to 7-11	50	.43	.43
8-0 to 8-11	35	.70	.70
9-0 to 9-11	35	.78	.78
10-0 to 10-11	38	.70	.70
11-0 to 11-11	45	.64	.64
12-0 to 12-11	54	.66	.66
13-0 to 13-11	38	.69	.71
14-0 to 14-11	39	.73	.73
15-0 to 15-11	53	.62	.63
16-0 to 16-11	47	.50	.47
17-0 to 17-11	51	.30	.28
Median value		.64	.64

Subjects with perfect or zero scores on either test were excluded as no ability score could be calculated for them.
Where subjects in the same age group attempted different blocks of items their results have been combined.

Since there are no direct measures of test-retest reliability for either the Short or the Long Form, the internal consistency reliabilities have been used to establish the standard errors of measurement (SEMs) for the two forms. The SEM is derived from the reliability coefficient by the formula

$$SEM = SD\sqrt{1 - r_{tt}}$$

where SD is the standard deviation of the score distribution and r_{tt} is the test's reliability coefficient. Using this formula for the Short Form median reliability coefficient (.80) gives an SEM of 6.7. Similarly, the median reliability coefficient for a block of the Long Form (.91) gives an SEM of 4.5. These figures have been rounded up to the nearest whole numbers 7 and 5 respectively to define confidence zones.

It should be noted that the procedures given in this manual and on the record form to find standard errors of measurement are based on internal consistency reliability coefficients. They are therefore appropriate in defining the error involved in testing on one occasion. If the user wishes to adopt a more stringent definition of the errors associated with testing to include extrinsic factors, larger standard errors of measurement should be used.

To give a more realistic portrayal of the effects of measurement error (or test unreliability) especially for extreme scores, it is desirable to consider the estimated true score of an individual rather than his obtained score. The confidence interval for the scores is distributed around the estimated true score. This means that for individuals whose score is far removed from the mean, the confidence interval is not symmetrical around the obtained score. An illustration of this is shown in Figure 8 which shows the relationship of obtained standardized scores to estimated true scores for a test with a reliability of .8. For a score of 130, the estimated true score is 124 and the confidence interval is therefore 124 ± 7 which is 117 to 131. A full description of the theory of regression to the mean and the calculation of true score confidence intervals is given in Nunnally (1967).

To simplify the use of confidence intervals with standardized scores, the following two tables were constructed for use with the BPVS. The confidence interval for each standardized score was calculated and by grouping scores, a simplified set of rules was devised. These are different for the two forms, with their different reliabilities and standard errors of measurement. Since the values in the tables are only good approximations, arrived at

Appendix 3

Short Scoring Guide *

MAN POINT SCALE

1. Head present
2. Neck present
3. Neck, two dimensions
4. Eyes present
5. Eye detail: brow or lashes
6. Eye detail: pupil
7. Eye detail: proportion
8. Eye detail: glance
9. Nose present
10. Nose, two dimensions
11. Mouth present
12. Lips, two dimensions
13. Both nose and lips in two dimensions
14. Both chin and forehead shown
15. Projection of chin shown; chin clearly differentiated from lower lip
16. Line of jaw indicated
17. Bridge of nose
18. Hair I
19. Hair II
20. Hair III
21. Hair IV
22. Ears present
23. Ears present: proportion and position
24. Fingers present
25. Correct number of fingers shown
26. Detail of fingers correct
27. Opposition of thumb shown
28. Hands present
29. Wrist or ankle shown
30. Arms present
31. Shoulders I
32. Shoulders II
33. Arms at side or engaged in activity
34. Elbow joint shown
35. Legs present
36. Hip I (crotch)
37. Hip II
38. Knee joint shown
39. Feet I: any indication
40. Feet II: proportion
41. Feet III: heel
42. Feet IV: perspective
43. Feet V: detail
44. Attachment of arms and legs I
45. Attachment of arms and legs II
46. Trunk present
47. Trunk in proportion, two dimensions
48. Proportion: head I
49. Proportion: head II
50. Proportion: face
51. Proportion: arms I
52. Proportion: arms II
53. Proportion: legs
54. Proportion: limbs in two dimensions
55. Clothing I
56. Clothing II
57. Clothing III
58. Clothing IV
59. Clothing V
60. Profile I
61. Profile II
62. Full face
63. Motor coordination: lines
64. Motor coordination: junctures
65. Superior motor coordination
66. Directed lines and form: head outline
67. Directed lines and form: trunk outline
68. Directed lines and form: arms and legs
69. Directed lines and form: facial features
70. "Sketching" technique
71. "Modeling" technique
72. Arm movement
73. Leg movement

* For use only after the scoring requirements have been mastered.

Appendix 4.

CONCEPTS ABOUT PRINT

1) Give child book upside down and suggest that you look at it together.

1 MARK FOR CORRECT ORIENTATION.

2) Ask the child what she thinks story is about.

NO SCORE.

3) Ask where the story starts.

1 MARK IF THEY POINT TO FRONT.
+ 1 MARK IF THEY POINT TO FIRST WORD.

4) Ask where the story ends.

1 MARK IF THEY POINT TO END OF THE BOOK.
+1 MARK IF THEY POINT TO THE LAST WORD.

5) Read a bit of the book - pointing to each word lightly and talking about the picutres. Let kid work "pop-ups".

6) On pages 15 and 16 read "HATS AND CRACKERS" _____ "OF COURSE" ask "Do you know which word says 'Hats' and 'Crackers'.

SCORE 1 MARK FOR EACH.

7) Pages 17 & 18 ask what kid thinks that there will be to eat?

NO SCORE.

8) Read pages 21 & 22 and then ask "Do you know what tells me what to say?" or "How do I know it says that?"

1 MARK IF THEY SAY SOMETHING LIKE THE WRITING TELLS YOU, OR IT SAYS SO.

9) Ask which way the writing goes.

1 MARK IF THEY POINT LEFT TO RIGHT.

10) Read 31 & 32 read Happy Birthday ask where do I go now?

1 MARK IF THEY REALISE THE SWEEP BACK.

11) Ask child 27 & 28 what the words say i.e. read Barbara - Barbara and see if they can tell you the others say BARBARA.

1 MARK.

12) Can they see any letters in their own name. Choose a page that they might.

1 MARK IF THEY CAN.

Jeri Riley 1987

APPENDIX 5

BOEHM 1 CONCEPT DEVELOPMENT - SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	5	1	.5	.5	.5
	8	2	1.0	1.0	1.6
	9	3	1.6	1.6	3.1
	11	1	.5	.5	3.7
	12	1	.5	.5	4.2
	13	1	.5	.5	4.7
	14	4	2.1	2.1	6.8
	15	8	4.2	4.2	11.0
	16	13	6.8	6.8	17.8
	17	10	5.2	5.2	23.0
	18	14	7.3	7.3	30.4
	19	13	6.8	6.8	37.2
	20	10	5.2	5.2	42.4
	21	16	8.4	8.4	50.8
	22	20	10.5	10.5	61.3
	23	30	15.7	15.7	77.0
	24	28	14.7	14.7	91.6
	25	16	8.4	8.4	100.0
		---	---	---	
	TOTAL	191	100.0	100.0	

VALID CASES	191	MISSING CASES	0
MEAN	20.288	STD. DEV.	3.960

APPENDIX 6

BPVS1 BRITISH PICTURE VOCABULARY TEST - SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	1	.5	.5	.5
	5	1	.5	.5	1.0
	6	6	3.1	3.1	4.2
	7	7	3.7	3.7	7.9
	8	11	5.8	5.8	13.6
	9	16	8.4	8.4	22.0
	10	22	11.5	11.5	33.5
	11	24	12.6	12.6	46.1
	12	30	15.7	15.7	61.8
	13	16	8.4	8.4	70.2
	14	20	10.5	10.5	80.6
	15	15	7.9	7.9	88.5
	16	13	6.8	6.8	95.3
	17	3	1.6	1.6	96.9
	18	4	2.1	2.1	99.0
	19	1	.5	.5	99.5
	21	1	.5	.5	100.0
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**11.780**	STD. DEV.	**3.073**
MEAN ADUSTED SCORE	**99**		

APPENDIX 7

DRAWMAN DRAW-A-MAN TEST - SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	30	1	.5	.5	.5
	39	2	1.0	1.0	1.6
	41	13	6.8	6.8	8.4
	43	1	.5	.5	8.9
	45	4	2.1	2.1	11.0
	48	23	12.0	12.0	23.0
	51	7	3.7	3.7	26.7
	52	1	.5	.5	27.2
	53	19	9.9	9.9	37.2
	54	2	1.0	1.0	38.2
	57	4	2.1	2.1	40.3
	60	30	15.7	15.7	56.0
	63	16	8.4	8.4	64.4
	64	1	.5	.5	64.9
	65	29	15.2	15.2	80.1
	69	3	1.6	1.6	81.7
	72	15	7.9	7.9	89.5
	75	11	5.8	5.8	95.3
	76	1	.5	.5	95.8
	77	4	2.1	2.1	97.9
	81	1	.5	.5	98.4
	84	1	.5	.5	99.0
	89	1	.5	.5	99.5
	96	1	.5	.5	100.0
		---	---	---	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**59.283**	STD. DEV.	**10.973**

APPENDIX 8

CONCEPT 1 CONCEPTS ABOUT PRINT - SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	4	2.1	2.1	2.1
	1	5	2.6	2.6	4.7
	2	6	3.1	3.1	7.9
	3	18	9.4	9.4	17.3
	4	19	9.9	9.9	27.2
	5	21	11.0	11.0	38.2
	6	20	10.5	10.5	48.7
	7	33	17.3	17.3	66.0
	8	22	11.5	11.5	77.5
	9	17	8.9	8.9	86.4
	10	12	6.3	6.3	92.7
	11	8	4.2	4.2	96.9
	12	6	3.1	3.1	100.0
		---	---	---	
	TOTAL	191	100.0	100.0	

VALID CASES	191	MISSING CASES	0
MEAN	6.346	STD. DEV.	2.794

APPENDIX 9

ALPHA1 LETTERS OF THE ALPHABET KNOWN - SEPT. 87

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	45	23.6	23.6	23.6
	1	18	9.4	9.4	33.0
	2	6	3.1	3.1	36.1
	3	13	6.8	6.8	42.9
	4	5	2.6	2.6	45.5
	5	11	5.8	5.8	51.3
	6	7	3.7	3.7	55.0
	7	6	3.1	3.1	58.1
	8	5	2.6	2.6	60.7
	9	3	1.6	1.6	62.3
	10	2	1.0	1.0	63.4
	11	6	3.1	3.1	66.5
	12	4	2.1	2.1	68.6
	13	3	1.6	1.6	70.2
	14	4	2.1	2.1	72.3
	15	5	2.6	2.6	74.9
	16	2	1.0	1.0	75.9
	17	3	1.6	1.6	77.5
	18	1	.5	.5	78.0
	19	2	1.0	1.0	79.1
	20	3	1.6	1.6	80.6
	22	1	.5	.5	81.2
	24	2	1.0	1.0	82.2
	25	6	3.1	3.1	85.3
	26	24	12.6	12.6	97.9
	29	1	.5	.5	98.4
	36	1	.5	.5	99.0
	47	1	.5	.5	99.5
	52	1	.5	.5	100.0
		---	---	---	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**9.455**	STD. DEV.	**10.450**

APPENDIX 10

NAME ABILITY TO WRITE NAME - SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	7	3.7	3.7	3.7
	3	26	13.6	13.6	17.3
	5	25	13.1	13.1	30.4
	9	1	.5	.5	30.9
	10	29	15.2	15.2	46.1
	13	1	.5	.5	46.6
	14	1	.5	.5	47.1
	15	54	28.3	28.3	75.4
	20	34	17.8	17.8	93.2
	25	13	6.8	6.8	100.0
		-----	-------	-------	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CAES	**191**	MISSING CASES	**0**
MEAN	**12.272**	STD. DEV.	**7.001**

APPENDIX 11

NR1 NEALE READING SEPT. 87/88

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	184	96.3	96.3	96.3
	7	1	.5	.5	96.9
	12	1	.5	.5	97.4
	14	1	.5	.5	97.9
	18	1	.5	.5	98.4
	31	3	1.6	1.6	100.0
		---	---	---	
	TOTAL	191	100.0	100.0	

VALID CASES	191	MISSING CASES	0
MEAN	.754	STD. DEV.	3.505

APPENDIX 12

SETTLED - ESTIMATE OF HOW WELL CHILD IS SETTLED IN

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	13	13	6.8	6.8	6.8
	14	13	6.8	6.8	13.6
	15	21	11.0	11.0	24.6
	16	17	8.9	8.9	33.5
	17	10	5.2	5.2	38.7
	18	9	4.7	4.7	43.5
	19	11	5.8	5.8	49.2
	20	14	7.3	7.3	56.5
	21	15	7.9	7.9	64.4
	22	5	2.6	2.6	67.0
	23	9	4.7	4.7	71.7
	24	10	5.2	5.2	77.0
	25	9	4.7	4.7	81.7
	26	2	1.0	1.0	82.7
	27	5	2.6	2.6	85.3
	28	4	2.1	2.1	87.4
	29	4	2.1	2.1	89.5
	30	4	2.1	2.1	91.6
	31	1	.5	.5	92.1
	32	5	2.6	2.6	94.8
	33	3	1.6	1.6	96.3
	35	3	1.6	1.6	97.9
	36	1	.5	.5	98.4
	38	1	.5	.5	99.0
	40	1	.5	.5	99.5
	44	1	.5	.5	100.0
		-------	--------	--------	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**20**	STD. DEV.	**6.214**

APPENDIX 13

BOEHM 2 CONCEPT DEVELOPMENT - JULY 88/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	11	1	.5	.5	.5
	12	2	1.0	1.0	1.6
	16	4	2.1	2.1	3.7
	17	1	.5	.5	4.2
	18	6	3.1	3.1	7.3
	19	6	3.1	3.1	10.5
	20	11	5.8	5.8	16.2
	21	16	8.4	8.4	24.6
	22	22	11.5	11.5	36.1
	23	30	15.7	15.7	51.8
	24	47	24.6	24.6	76.4
	25	43	22.5	22.5	99.0
	26	1	.5	.5	99.5
	27	1	.5	.5	100.0
		-----	-------	------	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	0
MEAN	**20.288**	STD. DEV.	**2.583**

APPPENDIX 14

BOEHM 3 CONCEPT DEVELOPMENT - SEPT. 88/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	3	1	.5	.5	.5
	5	2	1.0	1.0	1.6
	7	2	1.0	1.0	2.6
	8	5	2.6	2.6	5.2
	9	6	3.1	3.1	8.4
	10	7	3.7	3.7	12.0
	11	6	3.1	3.1	15.2
	12	7	3.7	3.7	18.8
	13	16	8.4	8.4	27.2
	14	18	9.4	9.4	36.6
	15	21	11.0	11.0	47.6
	16	18	9.4	9.4	57.1
	17	13	6.8	6.8	63.9
	18	9	4.7	4.7	68.6
	19	22	11.5	11.5	80.1
	20	11	5.8	5.8	85.9
	21	8	4.2	4.2	90.1
	22	7	3.7	3.7	93.7
	23	7	3.7	3.7	97.4
	24	4	2.1	2.1	99.5
	25	1	.5	.5	100.0
	TOTAL	191	100.0	100.0	

MEAN 15.859 STD. DEV. 4.285

APPENDIX 15

BPVS 2 BRITISH PICTURE VOCABULARY TEST - JULY 88/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	6	1	.5	.5	.5
	7	2	1.0	1.0	1.6
	8	7	3.7	3.7	5.2
	9	6	3.1	3.1	8.4
	10	6	3.1	3.1	11.5
	11	18	9.4	9.4	20.9
	12	15	7.9	7.9	28.8
	13	19	9.9	9.9	38.7
	14	21	11.0	11.0	49.7
	15	33	17.3	17.3	67.0
	16	20	10.5	10.5	77.5
	17	22	11.5	11.5	89.0
	18	13	6.8	6.8	95.8
	19	3	1.6	1.6	97.4
	20	3	1.6	1.6	99.0
	23	1	.5	.5	99.5
	115	1	.5	.5	100.0
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**14.592**	STD. DEV	**7.887**
MEAN ADJUSTED SCORE	**108**		

APPENDIX 16

CONCEPT 2 CONCEPTS ABOUT PRINT - JULY 88/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	1	1	.5	.5	.5
	2	1	.5	.5	1.0
	4	5	2.6	2.6	3.7
	5	2	1.0	1.0	4.7
	6	9	4.7	4.7	9.4
	7	7	3.7	3.7	13.1
	8	22	11.5	11.5	24.6
	9	11	5.8	5.8	30.4
	10	22	11.5	11.5	41.9
	11	6	3.1	3.1	45.0
	12	105	55.0	55.0	100.0
		-------	-------	-------	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	191	MISSSING CASES	**0**
MEAN	**10.246**	STD. DEV	**2.401**

APPENDIX 17

KNOWLEDGE OF THE ALPHABET 2 - JULY 88/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	4	2.1	2.1	2.1
	1	7	3.7	3.7	5.8
	2	7	3.7	3.7	9.4
	3	3	1.6	1.6	11.0
	4	1	.5	.5	11.5
	5	2	1.0	1.0	12.6
	7	2	1.0	1.0	13.6
	8	5	2.6	2.6	16.2
	9	3	1.6	1.6	17.8\
	10	7	3.7	3.7	21.5
	11	1	.5	.5	22.0
	12	4	2.1	2.1	24.1
	13	2	1.0	1.0	25.1
	14	1	.5	.5	25.7
	15	8	4.2	4.2	29.8
	17	4	2.1	2.1	31.9
	18	7	3.7	3.7	35.6
	19	5	2.6	2.6	38.2
	20	8	4.2	4.2	42.4
	21	3	1.6	1.6	44.0
	22	4	2.1	2.1	46.1
	23	3	1.6	1.6	47.6
	24	6	3.1	3.1	50.8
	25	7	3.7	3.7	54.5
	26	60	31.4	31.4	85.9
	27	1	.5	.5	86.4
	29	1	.5	.5	86.9
	33	1	.5	.5	87.4
	35	1	.5	.5	88.0
	37	1	.5	.5	88.5
	38	1	.5	.5	89.0
	39	2	1.0	1.0	90.1
	41	2	1.0	1.0	91.1
	42	1	.5	.5	91.6
	46	2	1.0	1.0	92.7
	48	1	.5	.5	93.1
	51	1	.5	.5	93.7
	52	11	5.8	5.8	99.5
		---	------	------	100.0
	TOTAL	191	100.0	100.0	

MEAN 22.073 STD. DEV. 13.567

APPENDIX 18a

READING 2 NEALE'S ANALYSIS OF READING (ADJUSTED SCORE)

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	88	46.1	46.1	46.1
	69	1	.5	.5	46.6
	72	2	1.0	1.0	47.6
	73	1	.5	.5	48.2
	74	4	2.1	2.1	50.3
	75	5	2.6	2.6	52.9
	77	5	2.6	2.6	55.5
	78	10	5.2	5.2	60.7
	79	4	2.1	2.1	62.8
	80	5	2.6	2.6	65.4
	81	13	6.8	6.8	72.3
	82	12	6.3	6.3	78.5
	83	3	1.6	1.6	80.1
	84	8	4.2	4.2	84.3
	85	1	.5	.5	84.8
	86	4	2.1	2.1	86.9
	87	1	.5	.5	87.4
	89	3	1.6	1.6	89.0
	90	1	.5	.5	89.5
	91	3	1.6	1.6	91.1
	92	1	.5	.5	91.6
	93	1	.5	.5	92.1
	94	2	1.0	1.0	93.2
	95	4	2.1	2.1	95.3
	96	2	1.0	1.0	96.3
	97	1	.5	.5	96.9
	99	6	3.1	3.1	100.0
	TOTAL	191	100.0	100.0	

VALID CASES 191 MISSING CASES 0

APPENDIX 18b

NR2 NEALE READING RAW SCORE - JULY 1988/89

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	89	46.6	46.6	46.6
	1	8	4.2	4.2	50.8
	2	5	2.6	2.6	53.4
	3	5	2.6	2.6	56.0
	4	10	5.2	5.2	61.3
	5	1	.5	.5	61.8
	6	3	1.6	1.6	63.4
	7	5	2.6	2.6	66.0
	8	13	6.8	6.8	72.8
	9	6	3.1	3.1	75.9
	10	6	3.1	3.1	79.1
	11	3	1.6	1.6	80.6
	12	6	3.1	3.1	83.8
	13	2	1.0	1.0	84.8
	14	1	.5	.5	85.3
	15	1	.5	.5	85.9
	16	3	1.6	1.6	87.4
	17	1	.5	.5	88.0
	19	1	.5	.5	88.5
	20	2	1.0	1.0	89.5
	22	3	1.6	1.6	91.1
	23	1	.5	.5	91.6
	24	1	.5	.5	92.1
	25	2	1.0	1.0	93.2
	26	2	1.0	1.0	94.2
	27	2	1.0	1.0	95.3
	28	2	1.0	1.0	96.3
	29	1	.5	.5	96.9
	31	6	3.1	3.1	100.0
		---	---	---	
	TOTAL	**191**	**100.0**	**100.0**	

VALID CASES	**191**	MISSING CASES	**0**
MEAN	**6.141**	STD. DEV.	**8.682**

APPENDIX 19

Multiple regression: Step wise (Entry skills on to reading at end of year)

Regression variables: Teacher, Boehm 1 Concept 1 BPVS 1
Alpha 1 Name Draw-a-man

Dependent variable: NR2 (Reading at the end of year)

Alpha 1: R. Square .39308
Signif. F. Change .000

Name: R. Square .05237
Signif. F. Change .0000

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	MIN TOLER	F.	SIGNIF. F.
TEACHER	.063559	.081584	.999971	1.260	.2631
BOEHM 1	.074194	.087951	.852854	1.466	.2276
CONCEPT 1	.090825	.108449	.865313	2.237	.1364
BPVS 1	.112593	.138341	.916241	3.668	.0570
NAME	.257838	.293752	.787768	17.755	.0000
DRAWMAN	.132831	.164594	.931880	5.235	.0233
SETTLED	-.167438	-.204838	.908323	8232	.0046
AGE	.168326	.215678	.996414	9.172	.0028

VARIABLES NOT IN THE EQUATION

VARIABLE	BETA IN	PARTIAL	MIN TOLER	F.	SIGNIF. F.
TEACHER	.042816	.057250	.781066	.615	.4339
BOEHM 1	-.010383	-.012126	.698535	.027	.8685
CONCEPT 1	.017689	.021052	.715002	.083	.8685
BPVS 1	.078797	.100159	.756848	1.895	.1703
DRAWMAN	.047437	.056604	.667476	.601	.4391
SETTLED	-.102909	-.125222	.712113	2.979	.0860
AGE	.104208	.131918	.702592	3.312	.0704

Appendix 20.

All beta values.

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	F	Sig F
BOEHM1	-.020209	.166547	-.009217	.015	.9036
BEVS1	.288629	.188988	.102177	2.332	.1284
CONCEPT1	.227929	.210795	.073351	1.169	.2810
ALPHA1	.476874	.052190	.574007	83.491	.0000
(Constant)	-2.804140	2.713528		1.068	.3028

End Block Number 4 All requested variables entered.

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	F	Sig F
BOEHM1	-.255412	.170013	-.116493	2.257	.1347
BEVS1	.323558	.181192	.114553	3.189	.0758
CONCEPT1	.020357	.207214	.006551	.010	.9218
ALPHA1	.406016	.052634	.488715	59.505	.0000
NAME	.291888	.082544	.235392	12.504	.0005
SETTLED	-.179671	.089913	-.128589	3.993	.0472
(Constant)	3.670941	4.017990		.835	.3621

End Block Number 6 All requested variables entered.

Appendix 21

Regressions on exit skills. Full Beta Values.

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	F	Sig F
BOEHM2	-.234908	.262111	-.069901	.803	.3713
BOEHM3	.680552	.162577	.335918	17.523	.0000
BPVS2	-.096040	.076119	-.087244	1.592	.2086
ALPHA2	.167722	.049063	.262092	11.686	.0008
CONCEPT2	.766975	.274699	.212122	7.796	.0058
(Constant)	-9.492520	4.757786		3.981	.0475

End Block Number 5 All requested variables entered.

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	F	Sig F
BPVS2	-.096040	.076119	-.087244	1.592	.2086
ALPHA2	.167722	.049063	.262092	11.686	.0008
CONCEPT2	.766975	.274699	.212122	7.796	.0058
BOEHM2	-.234908	.262111	-.069901	.803	.3713
BOEHM3	.680552	.162577	.335918	17.523	.0000
(Constant)	-9.492520	4.757786		3.981	.0475

End Block Number 5 All requested variables entered.

Appendix 22

QUESTIONNAIRE INTO READING IN THE FIRST YEAR OF SCHOOL

Please indicate your declared aims of the reception year of school

(a) **Mainly academic**

least important ——————————— most important

(b) **Mainly social**

least important ——————————— most important

Does the emphasis change during the year?

A great deal ☐ Yes, somewhat ☐ No, not at all ☐

If yes - how does it change?

How has the National Curriculum affected your aims of the first year of school?

List below skills or understandings that facilitate learning to read

_____ ☐

_____ ☐

_____ ☐

_____ ☐

_____ ☐

_____

Now please rank them in order of importance by numbering to the right (.5 for the most important)

Within the first month of school what are the criteria you use to assess where the child is in reading?

_____ ☐

_____ ☐

_____ ☐

_____ ☐

_____ ☐

Now please rank in order of importance by numbering in the boxes to the right
(5 for the most important)

What do you hope that parents/carers or nursery schools have taught the child about literacy before s/he comes to you?

_____ ☐

_____ ☐

_____ ☐

_____ ☐

_____ ☐

Now please rank in order of importance by numbering in the boxes to the right
(5 for the most important)

7 What different methods or ways into the teaching of early reading do you use?

Which of the following entry skills do you consider to be most important in facilitating development of reading? (Please number them in rank order of importance i.e. 4 is most important and 1 is least important.)

	RANK
Spoken Language	☐
Concepts about print (understandings of the way books and print works, L-R direction, etc.)	☐
Knowledge of the alphabet	☐
Ability to write name	☐

Any Comments

In what ways do you match your individual teaching of reading to the entry skills in the child that you believe to be important?

THANK YOU VERY MUCH FOR YOUR HELP

The teaching of phonics is important for successful reading.

Agree / / / / / / Disagree

Reading schemes are of limited value.

Agree / / / / / / Disagree

Learning to spell is a process that has to be allowed to develop.

Agree / / / / / / Disagree

Learning to read is a mechanical process.

Agree / / / / / / Disagree

The compositional aspect of writing is more important than the transcriptional.

Agree / / / / / / Disagree

Interest centred learning is a waste of time.

Agree / / / / / / Disagree

Parents are under utilised as a teaching resource.

Agree / / / / / / Disagree

Ability in reading is more determined by heredity than environment.

Agree / / / / / / Disagree

Competition undermines the natural desire that children have to work together.

Agree / / / / / / Disagree

APPENDIX 23

Director: Sir Peter Newsam

INSTITUTE OF EDUCATION
UNIVERSITY OF LONDON

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London WC1H 0AL

Telephone 071-636 1500
FAX No: 071-436 2186

Primary P.G.C.E.
Course Tutor: Jeni Riley, MA

Department of Child Development and Primary Education

Our ref: JR\aab

3 September 1991

Dear.....,

Thank you so much for agreeing to help with the study. The questionnaire will only take about 15 minutes to complete and is the last stage of a four year research project investigating reading and the first year of school. I need your help so badly - thank you.

Best wishes,

Yours sincerely,

Jeni Riley.

PAGES 203-206 (pdf's 225-233) REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES

The drawings by children included in the redacted pages contain information that could potentially reveal personal data.

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APPENDIX 25

Four Case Studies

'Look!
If you cover up ***painting*** you get ***paint.***
If you cover up ***shed*** you get ***she.***
If you cover ***o*** in ***No*** you don't have anything.
I've is like ***drive*** but it's ***have.***
That looks like ***will*** but it's ***William.***'

John, age 6

Clay, M. (1993)

Appendix 25

Four Case Studies: A discussion of the differing progress made by the pupils in four reception classes studied in the research project on literacy development

Introduction

The research project into literacy development in the first year of school had limitations due to the fact that it was conducted by a sole researcher and was supported with a small University-funded research grant.

These two facts made it impossible to carry out an in-depth, time-consuming, costly investigation into the observed teaching practices, the beliefs, understandings and the professional pre- and post-training of the reception teachers responsible for the twenty-six classes of children. A second part to the project, with this scope, would have provided opportunity for links to be made between the extent of the progress that the children made in reading during their first year of school and the teaching that they received. However, it seems valuable to explore to a limited extent, with the data available, the relative progress made in four reception classes and to discuss a possible explanation for the disparity. The in-depth consideration of the four classes will enrich and inform the data presented in the main body of the thesis.

The HMI Report (1991) on the Teaching and Learning of Reading in Primary Schools is the latest and most extensive report on this aspect of primary schooling. It states that "the contrast between the quality of teaching in the best and worst classes of similar aged pupils in broadly comparable circumstances was very stark indeed" (D.E.S. 1991, p.6). This statement would appear to be true also of this project. This fact might cause surprise, however, when it is remembered that the classes of the twenty-six reception teachers were studied on the understanding that the class teachers were considered to be effective (see 2.32 on the selection of the teachers). The sample was also more curtailed compared to that of HMI in scope, in age-phase focus, geographical location and, inevitably, size. This section will discuss four reception classes, in which the entry scores of the children appeared not to vary greatly from the mean of the whole sample, or from each other. However, in two of the four classes the pupils made measurably greater progress. Issues regarding the strong link between academic progress and socio-economic background will be both addressed and acknowledged in 8.90.

Information on the schools and the teachers acquired during the periods assessing the children and also the questionnaire data completed by the four respective class teachers will be used to discuss the experiences of these four groups of children and the progress that they made.

8.10 The two more "effective" teachers — Vera and Annette

These two teachers were both experienced and the majority of their teaching careers had been spent with the reception class age range (for over eleven years). Both had been in post for over five years. Vera taught a Reception and Year 1 class from which all ten reception children were assessed in September with one child leaving during the year. Annette had a vertically grouped 5-7 years class with all seven reception children assessed in September and she also had a child move to another school during the year.

8.20 The context in which Vera and Annette taught

The schools were rural in a shire county, both approximately the same size with 200+ pupils. They were sited in large villages with 75-80% of the children living in owner-occupied houses. None of the children assessed came from an ethnic minority or were considered to have educational special needs. As these were both mixed age group classes, all the intake was accepted into the project, therefore stratified random sampling of the register was not necessary.

8.30 The characteristics of the children from the two classes

It is the policy of the LEA in which the two schools operate to admit 'rising fives', or pupils the term after their fifth birthday depending on parental choice. The youngest child, aged 4 years and 10 months, in the two classes was in Vera's class. The oldest child was in Annette's class and she was 5 years and 4 months when her entry skills were measured. The mean ages in the two classes were 5 years 1 month and 5 years 2 months respectively at school entry, both slightly older than the mean for the whole sample of five years (60.15). There were almost equal numbers of boys (8) and girls (7) across the two classes.

8.31 The entry skills of the two classes of children compared with those of the whole sample

Of particular interest to this discussion were those scores that predicted most powerfully success with reading by the end of the first year of school in Part 1 of

the study. Table 32 indicates that of the entry skills Recognition of letters of the alphabet, ability to write own name, and concepts about print were the most predictive of later reading success. Table 33 demonstrates where these two groups of children were in their understanding of reading when they came to school in relation to the rest of the sample.

Table 33

(n = 15)

Comparison of mean scores on the entry skills most closely related to reading between the classes of the more "effective" teachers and the whole sample

	Alphabet knowledge		Ability to write name		Concepts about print	
	Class mean	Sample mean	Class mean	Sample mean	Class mean	Sample mean
Vera	15.4	9.45	11.5	12.27	6.2	6.35
Annette	7.3	9.45	15.8	12.27	6.1	6.35

Both classes were very slightly below average on their understanding of the conventions and meaning about print. On the two measures that indicate, according to this study, a more refined print awareness, Vera's class was more advanced than the majority of the children assessed, but this group did not have the highest mean score of all twenty-six classes. Annette's group scored highly in the measure for the ability to write their own names (i.e. three points about the mean) — although one child was able only to copy his name — three of the children could write both first and second names and two others could write their first names accurately and made a recognisable attempt to write their second. This, however, also was not the highest score for this measure across the thirty-two groups.

Inspection of these data does indicate that these fifteen children were functioning well in their understandings of literacy, though not significantly better than the average. Details of the individual scores across the two classes are shown in Tables 34 and 35.

Table 34

(n = 9)

Individual pupil's scores from one class indicating progress achieved

Teacher: Vera

School: Rural

Child	Aymer	Thomas	Ian	Glenn	Vanessa	Lewis	Nicholas	Julia	Eleanor	Sept. 1988	July 1989
Boehm (1)	24	16	19	14	17	23	16	23	24	19.5 *SD 3.9*	
Boehm (2)	25	23	25	21	22	25	20	25	25		23.4 *SD 2.0*
Boehm (3) (July only)	22	19	22	11	15	16	12	19	21		16.3 *SD 4.8*
Neale's Analysis of Reading Sept	0	0	0	0	0	0	0	0	0		
July	8.0	7.11	7.2	6.5	6.3	6.6	0	7.6	6.10	0.0	75.4 (6.3) *SD 29.3*
C.A.P. Sept	9	5	5	5	7	5	4	8	8	6.2 *SD 1.7*	
July	12	12	12	12	12	10	12	12	12		11.7 *SD .6*
B.P.V.S. Sept.	113	116	121	104	94	83	104	123	91	105.4 *SD 13.9*	
July	135	124	135	106	109	132	109	114	113		119.7 *SD 11.8*
Name Sept	25	10	5	3	3	15	10	3	20	11.5 *SD 7.0*	
Motor Control	Poor	Mod.	Mod.	Poor	Mod.	Mod.	Poor	Mod.	Mod		
Letters - names and sounds Sept	10s 26n	6s 23n	19s 5n	1s 3n	9s16n	0s 14n	0s 0n	2s 1n	0s 7n	n 10.5 s 5.2 *SD=9*	
July	16s 26n	15s 24n	22s 24n	16s 4n	11s 26n	0s 23n	0s 15n	0s 21n	1s 20n		n 20.33 s 9.0 *SD 7.0*
D.A.M. Sept	5.5	5.0	5.75	3.5	3.75	5.0	4.0	4.75	5.25	56.4 *SD 9.6*	
Age Sept	5.0	5.2	5.3	4.11	5.1	4.11	5.1	5.0	4.10	61.4 5.1 *SD 6.1*	
Gender	M	M	M	M	F	M	M	F	F		

Table 35

(n = 6)

Individual pupil's scores from one class indicating progress achieved

Teacher: Annette

School: Rural

Child	Hayley	Vicky	Leanne	Agnes	Neil	Christopher	Sept. 1988	July 1989
Boehm (1)	23	24	23	25	22	4	21.8 *SD 3.9*	23.2 *SD 2.6*
Boehm (2)	23	25	24	25	24	18		23.2 *SD 2.6*
Boehm (3) (July only)	13	19	13	23	21	15		17.3 *SD 4.2*
Neale's Analysis of Reading Sept	0	0	0	0	0	0	0	
July	6.2	6.5	6.7	7.10	8.9	0		70.3 (5.10) *SD 35*
C.A.P. Sept	6	6	6	8	9	2	6.1 *SD 2.4*	11.0 *SD 2.4*
July	12	12	12	12	12	6		
B.P.V.S. Sept	113	116	111	111	126	88	110.8	114.0
July	106	104	109	114	130	121	*SD 12.5*	*SD 9.0*
Name	20	15	15	20	20	5	15.8 *SD 5.8*	
Motor Control	Good	Good	Good	Good	Mod.	Poor		
Letters - names and sounds Sept	0s 5n	0s 3n	0s 5n	13s 2n	13s 3n	0s 0n	3.00 *SD 1.8* 4.3 *SD 6.7*	
July	0s 25n	0s 25n	1s 23n	22s 16n	21s 4n	18n		19.5 *SD 8.0* 6.3 *SD 9.0*
Draw-a-man Sept	5.25	5.5	5.5	5.5	4.5	3.75	59.3 (4.11)	
Settled Sept	51	52	46	39	44	41	45.5 *SD 5.2*	
Age Sept	5.1	5.3	5.3	5.4	5.2	5.1	62.3 (5.2)	
Gender	F	F	F	F	M	M		

Part 1 of the study showed, unsurprisingly, measures of general intellectual maturity and cognitive functioning were also related to success in reading as indicated by the Neale's Analysis of Reading score. Pearson correlations between these scores are shown in Table 6.

Table 36

(n = 15)

Comparison of the mean scores of the measures indicating general cognitive functioning between the classes of the more "effective" teachers and the whole sample

	Boehm (1) Booklet (1) administered in September		Boehm (3) Booklet (2) administered in July		Draw-a-man test	
	Class mean	Sample mean	Class mean	Sample mean	Class mean	Sample mean
Vera	19.5	20.28	16.3	15.85	56.4 (4 yrs 8 m)	59.28
Annette	21.8	20.28	17.3	15.85	59.3 (4 yrs 11m)	59.28

The relationship between success in reading and cognitive ability as measured on the Boehm Test of Basic Concepts was strongest between Neale's Analysis of Reading Score and Boehm (3) with a correlation of R = .48 ($\rho<0.001$). The reason for this, it will be remembered, was that many children (60%) had almost reached the ceiling of the test when assessed in September on Booklet 1 of the Boehm in that they scored over 20 from a maximum of 26. Booklet 2 was administered only in the July post-tests. It would appear from the scores on this assessment that both these classes of children were functioning above the average level on conceptual maturity measures. Vera's group scored slightly below the mean at school entry but had made progress beyond the average in the first year of school. Annette's group were probably the more intellectually able of the two, with higher than mean scores both at entry and in the July test (reinforced also by the higher Draw-a-man scores). Both groups were relatively homogeneous as indicated by the standard deviations of 3.9 in September for Boehm Booklet 1, and 4.2 and 4.8 respectively in the July on the Boehm Booklet 2.

8.32 The progress in reading achieved by the two classes

Both groups of children had a very successful first year of school. None of them were reading at the beginning of the year but by the July, 13 out of 15 pupils had achieved a reading age at least in line with their chronological age. One child had a score of 8 years 9 months when 6 years old in the July. Vera's mean reading age at the end of the year was 6 years 3 months and Annette's was 5 years 10 months. Annette had the slowest child in her class: Christopher, who was not scoring on the Neale's Analysis Reading Test. This little boy, at school entry, had a Boehm 1 score of 7 points below the mean and a Draw-a-man score that indicated he had a representational ability of only three years and nine months, one of the lowest in the whole sample. His understanding of books and print was very limited with a score of two on the Concepts about Print, also he knew no letter names or sounds when he arrived at school. But he made progress in the year. Particularly impressive was his growth in spoken vocabulary from a score of 88 to 121. He had advanced in all the literacy related measures (see Table 35), and would most probably soon be reading well enough to score on a reading test.

The child in the two classes who scored highest at school entry on all the measures was in Vera's class, a little boy named Aymer. He was near the ceiling on the Boehm booklets 1 and 2 on both assessments. He knew all his letter names and some sounds and scored the maximum on ability to write his name. Aymer clearly was well on the road to reading when he arrived in Vera's class and by the end of the year he had achieved a reading age of 8 years old. Interestingly, a child, Neil, in Annette's class came to school with less impressive entry scores but was scoring 8.9 by the July on the Neale's Analysis of Reading Test.

Close inspection of the pupil data leads to the conclusion that the teaching of literacy in these classes was very effective. The children also made progress in their spoken language, which, whilst it did not have as strong a relationship with reading as other measures in the analyses, it clearly has a crucial role in all aspects of school learning and thinking.

What light did the questionnaire data shed on the teachers' part in this impressive progress made by these two classes of children?

8.40 The attitudes, understandings and declared practice of the two more "effective" teachers

Self-report of practice is not the most reliable form of evidence. Teachers' relating of their methods has been shown indisputably to contain a 'rhetoric/reality' gap by several research projects (Mortimore et al, 1988; Tizard et al, 1988). However, the questionnaire (Appendix 22) was designed to probe not only what reception teachers did with their classes but what they understood of the complex process of acquiring literacy. The HMI report (1991) suggests that in 57% of schools the standards for the teaching and learning of reading were high. "In these schools the teaching of reading was well planned and what was planned was thoroughly implemented resulting in a high level of challenging reading for all the children throughout the school." (D.E.S., 1991 p.3) "Poor standards in the remaining 20%, as in the previous HMI survey, were strongly associated with weakness in the quality of teaching and in the organisation and management of the work in the classroom" (D.E.S., 1991 p.2).

In a sense it seems like a statement of the obvious that the quality of the learning depends on the quality of the teaching which needs to be well planned and implemented. On the other hand, perhaps it does need to be acknowledged given the complexity of teaching the early stages of literacy, and the nature of the young child's task in getting to grips with written language. Given these facts it is not surprising that teachers in 20% of schools are not functioning very effectively. Certainly, the efficacy in the way that reception teachers plan, structure and implement high quality learning experiences for very new school entrants will depend crucially on their level of knowledge of literacy development. It is in this area that the questionnaire provides most useful insight.

8.41 The attitudes of the two teachers, Vera and Annette

Both teachers rated academic concerns for the first year of school on the mid-point of the five point scale. Annette considered that social aims were as important as the academic but Vera gave the socialisation aspect of settling the child into school the highest rating on the five point scale. Both teachers felt the emphasis moved during the year towards higher educational priorities as the child became more at ease in school.

The views of Vera and Annette on the attitude scale to the process of literacy (Appendix 22) were quite opposite when aggregated, although there were points of consensus — Vera with a score of 22 was placed in the "traditional" end of the

continuum. But Annette with her score of 38 was in the "developmental" end (see Table 29). This was shown practically by the following examples. They both disagreed with the statement "Learning to read is a mechanical process". Annette gave a rating of 3 on the five point scale to "The teaching of phonics is important for successful reading", whilst Vera agreed wholeheartedly with a rating of 5. Annette agreed strongly that "Reading schemes are of limited value" whilst Vera disagreed. They had different views on the statement "Learning to spell is a process that has to be allowed to develop". Vera disagreed strongly — Annette agreed (a rating of 4).

There were statements where they shared views. Both agreed that "The compositional aspect of writing is more important than the transcriptional", they both consider that "Parents *are* an under-utilised resource" and that "Interest-centred learning is valuable". It would seem that whilst Annette had a more meaning-centred "top down" view of literacy, Vera would agree that all encounters with print, to either decode or encode, need to be meaningful but that there are sub-skills, that they are crucial and that they have to be taught thoroughly and in a structured way. These attitudes underpin and inform the teachers' knowledge base of literacy development. The next section will consider the overlap in Vera and Annette's understanding.

8.42 The knowledge base of the two more "effective" teachers

Both reception class teachers believe that the motivation of enjoyment of stories, rhymes and books is the most powerful facilitator in learning to read. Whilst love of books is not the skill or understanding sought in question 4, it is undeniably central to any method of teaching reading. The views of Vera and Annette overlapped on the other prerequisites of conventional beginning reading:

- The concepts about print;
- Phonic awareness and word-building;
- Ability to sequence a story;
- Ability to concentrate.

Regarding the criteria they each use to assess the child's stage of reading, Vera gave clear, observable behaviours that indicate development on the part of the young child, as she moves from emergent literacy to conventional reading. Vera's tools of assessment were:

- Interest in choosing books to look at and enjoy (*motivation, concentration, enjoyment*)*
- Interest in seeing own stories written and in reading them back (*ability to remember encoding*)
- Concentration span;
- Ability to match pictures, picture to word, word to word (*indicating not only visual discrimination but an understanding of the symbolic aspect of written language — black squiggles stand for a word, and it is immutable*);
- "Pretend" reading using finger to word (*acting like a reader, understanding that speech is continuous, written language is divided into segments*);

Annette merely listed what she did with the child that might provide opportunities for assessment such as "sharing books with child", etc.

Again, in question 6, regarding the most valuable learning about literacy that parents and carers can engender, Vera is much more clear and specific:

- Love of stories and rhymes;
- Recognition of child's name and some notices;
- Words carry meaning;
- Orientation of print;
- Use of print for information as well as fiction.

Annette's list is more motivational and enjoyment-orientated but sound. She adds the important prerequisite skill of auditory discrimination, assisted by being able to hear rhyming sounds.

When given the entry skills found to be most productive in Part 1 of the study, both teachers ranked the four skills similarly:

Spoken language	4	4 is considered "most
Concepts about print	3	important" by the two
Knowledge of the alphabet	2	teachers
Ability to write own name	1	

They ranked them in the reverse order to those demonstrated to be most predictive of early reading success.

* Writing in italics indicates the author's expansion of the teacher's comments.

Vera and Annette are knowledgeable about the literacy process, they are aware of recent research findings, perhaps sublimally. Vera is the most observant thought-out and diagnostic teacher of reading, according to the questionnaire completion. Neither is aware of the findings of this project and the Infant School Study on the importance of letter recognition. The work of Gordon Wells and Marie Clay are the most obvious theoretical influences for the completion of question 8.

8.43 The different methods of teaching early reading and how the two teachers match their teaching programme to the individual

How to teach reading, its methods and resources is a highly controversial area as discussed fully in 4.20. Given the multifaceted nature of the reading task, it is gratifying, despite the ravings of an "anti-trendy teaching method" press, that HMI (1991) re-assert "As in the previous survey, a policy of using a mix of teaching methods was evident in nearly all the schools. Teachers rarely adhered to a single method but where they did it invariably failed to meet the needs of a large majority of the children in the class. ... Some of the most successful work established a 'sight' vocabulary. Even those who came to school with a very limited grasp of language were taught to recognise familiar words such as their own names and those of common objects as well as vocabulary associated with the early books of reading schemes. The sound patterns of words were frequently taught so that the children quickly came to see there was usually a correspondence between sounds and letters, or groups of letters. At the same time they were taught to recognise more whole words and short sentences which enabled them to predict patterns of words and begin to read for meaning. The most effective work made close links from the earliest stages between reading and writing which drew upon the children's familiar experiences at home and school. Successful teachers underpinned these early inroads into reading by engaging children in story reading using good quality books to enrich their understanding of language and fire their interest" (D.E.S., 1991 p.7).

Both these teachers suggest in their questionnaire forms that they promote early literacy in all the ways that HMI acclaim. Their answers suggest a good blend and range of activities that encourage storying and sequencing, along with the teaching of the subskills of phonemic awareness and visual discrimination. All their approaches are centred around meaningful, interesting encounters with print and stories.

Vera prefaced her reply with "Refer to Question 5 techniques of teaching and assessment are linked" and so acknowledges the primacy of matching the

programme to the child's development. HMI (1991) noted that "There was a strong link between the effective monitoring and assessment of pupils' progress, good teaching and high standards of reading. ... A minority of teachers assessed children's achievement very effectively as they listened to reading. They kept a running record of the children's responses by marking a copy of the text to indicate the children's difficulties; the record was then used to plan work designed to overcome them" (HMI, 1991 p.11).

This diagnostic mode of hearing children read, pioneered by Helen Arnold (1982) and Marie Clay (1985) in her Reading Recovery programmes is the notion of "match" that is discussed fully in 4.31 and 4.40. Vera and Annette both have a very strong learner-centred approach to the teaching of reading to their reception children.

Annette writes "I try to foster a reading community within the classroom. From that broad base I would try to tailor my teaching aims for each child. I plan to take them from the stage I feel that they have reached, to the stage I want them to achieve next.

Someone who doesn't know the first thing about books needs to be read to often. Someone who can decode a fair number of words needs to be supported while working on their chosen book.

I believe in providing a system of scaffolding to enable the reading progress to proceed."

Vera is much more detailed again in her descriptions of her approaches to teaching various reading behaviours at the particular stages of literacy development. Whilst it could well be argued that there might be a rhetoric/ reality gap and that these two teachers may not do what they say they do, the reality is that the children in these two classes made the greatest progress of all the thirty-two classes in the research project.

8.50 The two "less effective" teachers, Janet and Wanda

These two teachers were less experienced than Vera and Annette with the reception age range. Janet had taught over eleven years but only four of them had been spent with the newest of school pupils. Wanda had taught less than five years in total. Both teachers were responsible for smallish (20) classes of horizontally grouped reception children. Janet only had one child move to another school during the year.

8.60 The context in which Janet and Wanda taught

The two schools were urban, both could be described as inner-city, one in North-east London and the other South-east London. Janet's school was between 100 and 200 pupils in size with 50% of the intake described as being housed on council estates and 50% in owner-occupied homes. The school population comprised 30% ethnic minority pupils and 70% white British children. Wanda worked in a school of over 200 children. These pupils lived for the vast majority (80%) in owner-occupied homes and 10% of the school were described as being of ethnic origin. Both these schools, despite the proportions of owner-occupied and council-owned homes, whilst they fulfilled the project criterion for selection (see 2.33) and were not greatly dissimilar from those of Vera and Annette, were nevertheless operating in less materially advantaged circumstances. The socio-economic status of the population could accurately be described as working class and upper working class in Janet and Wanda's schools, rather than middle class and upper working class in Vera and Annette's schools. The children were chosen to take part in the project by stratified random sampling of the register (see 2.40 for the details).

8.70 The characteristics of the children from the two classes

The London borough in which Janet's school was sited, operated a policy of admitting children the year that they were five years old. This reception teacher taught the youngest children in the whole sample: the mean age at school entry was 4 years 6 months (compared with the mean of 5 years in the whole sample). Two children were only 4 years 1 month at the September assessment. Wanda's class had been admitted the term that they had their fifth birthday. Her mean entry age was below that of the whole sample by two months, with the youngest child being 4 years 9 months. Across the two classes of 17 children there were 7 girls and 10 boys. Only one child could be identified as being from an ethnic minority by his name.

8.71 The entry skills of the two classes compared with those of the whole sample

Consideration of the developmental stage in literacy evident at school entry within these two groups of children makes interesting comparison with the whole sample and Vera and Annette's classes, and is shown in the following table.

Table 37

(n = 17)

Comparison of the mean scores of the entry skills most closely related to reading between the classes of the less "effective" teachers and the whole sample

	Alphabet knowledge		Ability to write name		Concepts about print	
	Class mean	Sample mean	Class mean	Sample mean	Class mean	Sample mean
Wanda	10.8	9.45	14.3	12.27	9.0	6.35
Janet	12.0	9.45	8.7	12.7	6.3	6.35

The literacy-related entry skills were surprising. Janet's children, despite their young age, were functioning at the average level and above in their understandings about stories and print, and their ability to discriminate and label letters of the alphabet. This very young group was not able to write their own name as well as other groups in the sample. Six out of the nine children were described by the researcher as having poor motor control and two of them could not even copy their first name. The mean score was 4 points below the mean for the whole sample. Wanda's group were broadly as established in the emergent literacy phase as Annette's group. The 17 children had been exposed to many literacy experiences either at home or in their nurseries. From these entry skill scores, it might be expected that many would be readers by the July. Details of the individual scores across the two classes are shown in Tables 38 and 39.

Table 38

(n = 9)

Individual pupil's scores from one class indicating progress achieved

Teacher: Janet

School: Inner City

Child	Rowena	Sara	Louis	Nicola	James	Philipry	Robert	Yoland	Gerard	Sept. 1988	July 1989
Boehm (1)	25	17	16	21	16	24	15	17	16	18.5	
Boehm (2)	25	22	25	23	22	25	16	21	24		22.5
Boehm (3) (July only)	19	15	16	13	13	22	15	10	11		14.6
Neale's Analysis of Reading Sept	0	0	0	0	0	0	0	0	0		
July	6.11	0	0	0	0	7.0	0	0	0		(18.5 mths)
C.A.P. Sept	12	6	7	8	5	10	3	5	7	6.3	
July	12	8	8	8	9	12	8	4	7		8.4
B.P.V.S. Sept	106	93	91	102	99	111	101	91	86	97.7 *SD 8.1*	
July	126	94	111	108	101	123	88	83	103		104.1 *SD 4*
Name	20	0	5	10	0	20	5	5	10	8.7 *SD 7.3*	
Motor control	Mod	Poor	Poor	Poor	Poor	Mod.	Poor	Mod.	Poor		
Letters - names & sounds Sept	25s 0n	0s 1n	0s 2n	0s 26n	0s 0n	26s 26n	0s 0n	0s 0n	0s 0n	5.5s 6.4n	
July	25s 26n	0s19n	0s 9n	0s 26n	0s 2n	26s 26n	0s 12n	0s 2n	0s 9n		5.6s 13.7n
Draw-a-man Sept	5.75	4.0	3.75	3.75	4.5	5.0	4.0	5.25	3.5	(4yr 4)	52.2 (4.4)
Settled Sept	40	42	30	47	29	46	40	33	39	38.4	
Age Sept	4.5	4.3	4.10	4.1	4.11	4.9	4.7	4.1	4.8	4.6	5.4
Gender	F	F	M	F	M	M	M	F	M		

Table 39

(n = 8)

Individual pupil's scores from one class indicating progress achieved

Teacher: Wanda

School: Inner City

Child	Sarah	Emily	John	Michelle	Jonathan	Billy	Robin	Jock	Sept. 1988	July 1989
Boehm (1)	23	24	22	14	25	18	18	24	21 *SD 3.8*	
Boehm (2)	24	23	24	21	25	21	23	24		23.2 *SD 1.4*
Boehm (3) (July only)	19	17	16	10	24	9	14	19		16.00 SD 4.9
Neale's Analysis of Reading Sept	0	0	0	0	7.3	0	0	6.8	20.6 *SD 38.2*	
July	6.7	6.7	0	0	8.1	0	0	6.9		40.7 *SD 44.2*
C.A.P. Sept	11	10	12	3	9	7	7	10	9.0 *SD 3.1*	
July	12	12	12	10	12	9	8	12		10.8 *SD 1.6*
B.P.V.S. Sept	113	109	99	97	116	94	88	106	102.7 *SD 9.7*	
July	111	121	106	93	116	106	91	123		108.3 *SD 11.8*
Name Sept	20	15	15	5	20	10	10	20	14.3 *SD 5.6*	
Motor Control Sept	Mod.	Mod.	Poor	Poor	Mod.	Poor	Poor	Mod.		
Letters - names and sounds Sept	1s 9n	5s 10n	0s 3n	0s 11n	0s 26n	0s 3n	0s 0n	17s 2n	n 8.0 s 2.8	
July	26s 26n	26s 26n	0s 12n	0s 19n	26s 26n	0s 9n	0s 13n	26s 26n		n 19.6 s 13.0
Draw-a-man	6.5	6.0	6.25	5.0	5.25	5.5	3.5	5.75	64.6 *SD 11.4*	
Settled Sept	47	52	44	45	42	41	48	50	46.1 *SD 3.8*	
Age Sept	4.11	5.0	5.0	4.9	4.10	5.0	5.0	4.9	4.10	5.8
Gender	F	F	M	F	M	M	M	M		

The scores indicating a general intellectual maturity were not greatly discrepant from those of the mean for the whole group.

Table 40

(n = 17)

Comparison of the mean scores of the measures indicating general cognitive functioning between the classes of the "less effective" teachers and the whole sample

	Boehm (1) Booklet (1) administered in September		Boehm (3) Booklet (2) administered in July		Draw-a-man test	
	Class mean	Sample mean	Class mean	Sample mean	Class mean	Sample mean
Wanda	21	20.28	16.00	15.85	64.6 (5 yr 4 m)	59.28 (5 yr 11 m)
Janet	18.5	20.28	14.6	15.85	52.2 (4 yrs 4 m)	59.28

Wanda's group appears to be functioning at the average level for general ability, but Janet's children are two points below the mean on both Boehm scores.

8.72 The progress in reading achieved by the two classes

Wanda was the only teacher of the four under consideration who had two children reading at the beginning of the year. By the end of the year these two had made some progress (one only had made one month's progress on the reading test over the ten month period). In addition, two other children were scoring 6 years 7 months on the Neale's Analysis of Reading test. The other four children had made little progress. Billy came to school scoring 7 (out of 12) on the Concepts-about-print test; at the end of the year this had increased to 9. He knew 3 letter names in September and had learnt 6 more by the July. John came to school in possession of all 12 concepts about print, but he could recognise not even one letter of the alphabet; by the end of the year he knew only three letters. The mean scores on the British Picture Vocabulary Test indicated that very low gains were achieved in spoken language in this group also.

Janet had no children reading in the September, by the July two of her pupils had reading ages of 6 years 11 months and 7 years. Progress in the reading-related

measures was evident but it was not extensive. Louis came to school with a score of 7 on the Concepts-about-print test and during the year he gained only one more, and learned seven letter names. In September Nicola knew all her letters, and 8 concepts about print; she gained no greater understanding of the way that books work by the end of her first year of school, and, needless to say, she was not reading well enough to score on the Neale's Analysis of Reading, either.

It could not be argued that these children did not learn effectively because of emotional disturbance from trouble settling into school. The mean settled scores for the four groups were as follows:

Vera = 38.3 Annette = 45.5 Janet = 58.4 Wanda = 46.1

Vera and Janet's groups had settled less well than those of Annette and Wanda. The levels of adjustment of the children were approximately equable across the more effective and the less effective classes.

The explanation for the comparative lack of progress will now be sought from the questionnaire data.

8.80 The attitudes, understandings and declared practice of the two "less effective" teachers

Wanda indicated that she believes that academic aims are the most important focus for the first year of school. She gave social considerations a very low rating of 2 out of 5 points. Janet placed her rankings in the reverse order. Wanda, not surprisingly, suggested that her emphasis did not change during the year, whilst Janet felt her main focus moved somewhat from social priorities to more educational concerns.

The attitude scale (Appendix 22) does not provide great insight. Numerically these two teachers are in different positions on the continuum. Wanda with a score of 29 is in the intermediate section, and Janet with a score of 38 is in the developmental tradition of viewing the literacy process (see Table 29). In fact, the two are in agreement with each other on all the items except item 8 in which Janet believes that the environment is more important than heredity in determining reading, Wanda believes the reverse. Wanda did not respond to one other item, which affected her score total.

Both teachers claim to value phonics, and to consider reading schemes to be of limited value, and that spelling should be allowed to develop. In other words, it

seems that the theory base for their teaching is influenced by Frank Smith rather than a "bottom-up" skills approach.

8.81 The knowledge base of the two "less effective" teachers

Discussion will now take place regarding the ways in which Janet and Wanda's attitudes to the literacy process affect what they do with children in the classroom.

Janet misunderstood question 4 on the questionnaire regarding the skills and understandings that facilitate learning to read: she listed the ways she teaches reading. Wanda cited various individual concepts about print and the ability to sequence both with pictures and when telling a story, as the most crucial skills as the child emerges from early understanding of the task into conventional literacy. There is no mention of phoneme-grapheme awareness as a necessary prerequisite to decoding.

Regarding the question on the criteria they would use to assess where the child is as a reader, the responses were sound. Both mention observable behaviours such as responding to books, the way the child talks about stories and pictures, indications that the child knows the conventions of books and print. Wanda mentions finer visual discrimination such as recognition of letters in the child's own name in different contexts. Whilst no one would argue with the answers, they do denote only very broad areas of the young reader's functioning. Vera, especially, was able to be more specific.

Question 6 asked what the teachers hope that parents have taught their pupils about literacy. Janet concentrates on the enjoyment and meaningfulness of stories and communication. In addition Wanda mentions the symbolic aspect of language and teaching the child her own name.

When given the entry skills found to be most predictive in Part 1 of the study the two teachers ranked them as follows:

	Janet	Wanda	
Spoken language	3	4	
Concepts about print	4	3	4 is the most important
Knowledge of the alphabet	2	1	
Ability to write name	1	2	

As with Vera and Annette, the two "less effective" teachers also believe that knowledge of the alphabet and ability to write name are less important prerequisites to reading than spoken language and concepts about print.

The sequential nature of the more refined understanding from the purpose and convention of print through to attention and discrimination of its graphic detail has been shown to be crucial by this study and needs widespread dissemination to teachers involved with the reception year of school.

What is interesting about the close analysis of the replies of these two teachers is not that they had a poor understanding of the current literature. They were, broadly, in the same arena as Vera and Annette in their knowledge base, but there were gaps of understanding about the way the young child gets to grips with written language. Janet and Wanda were apostles of the Liz Waterland persuasion rather than the Marie Clay. They both adhered to a more "top-down" approach than the eclectism of Vera who had accumulated over time and practice the theoretical underpinning for her teaching of young readers.

8.82 The different methods of teaching early reading and how the two teachers match their teaching programme to the individual

Both teachers' approaches were, in self-report, very laudable. They used "large group" books with multiple copies of the small ones for reinforcement. Books were made for, with and by children. Shared and taped stories were commonplace in their classrooms.

What was missing from their descriptions of activities was any suggestion of matching the approach to the child in a diagnostic and analytical way, even though question 9 asked for ways that they match teaching to the child's entry skills. This could well be the key to these two teachers' relatively less effective teaching, as HMI (1991) suggest: "Although a similar range of methods was often used in the least successful classes as in others, they functioned more as an *ad hoc mixture* rather than as part of a planned sequence of teaching based on a careful assessment of the pupils' changing needs" (D.E.S., 1991 p.7). Also it has to be acknowledged that a questionnaire postal survey is not able to assess the individual's organisational and managerial abilities. This HMI found frequently to be lacking in the less successful classrooms.

8.90 Conclusion

The next section will now discuss the main issues that have emerged from the close examination of these data collected on the first school year in four reception classes.

8.91 The schools

It has to be acknowledged that the schools were operating in different contexts. The powerful influence of socio-economic status and educational achievement has to be acknowledged first and foremost in this close inspection of these data. Whilst the selection criteria of the research project were upheld with a mixed population in each school, drawing from a catchment area of both council estate and owner-occupied housing, means one thing in a shire county village and something rather different in an inner city. As HMI (1991) write "...schools serving areas of marked social and economic disadvantage generally faced much greater difficulties in securing children's progress in reading than those elsewhere" (D.E.S., 1991 p.1). They continue, "The location of the schools was strongly associated with pupils' levels of reading achievement" (D.E.S., 1991 p.11).

The two "less effective" teachers were operating in areas of less material advantage and this must have affected adversely their efficacy. In their two schools there were children for whom English was not their first language, and in all probability a higher proportion of children with educational special needs. Janet and Wanda had these factors working counter to their teaching. However, comparison between the end of nursery scores of the inner-city children in the Infant School Study (1988) is interesting.

Table 41

Comparison between the entry skills of two inner-city classes in the present study and the Infant School Study

	The Present Study: Author's version of the test		Infant School Study: TCRU version of the test
Concepts about print	Wanda's class	Mean: 9.0 (possible range 0-12)	Mean: 2.5 (possible range 0-10)
	Janet's class	Mean: 6.3	
Letter identification	Wanda's class	Mean: 10.8 (possible range 0-26)	Mean: 2.4 (possible range 0-26)
	Janet's class	Mean: 11.9	

If social class factors had had a disabling effect on the progress made by Janet and Wanda's group during their first year of school, it clearly had not done so before school. The mean scores of these two inner city classes indicated that the children in the present study are considerably more advanced in literacy-related understanding than those of the Infant School Study.

8.92 The classes

The children were grouped horizontally in the classes of the "less effective" teachers. The children selected for the project were chosen from twenty reception aged children. The two more effective teachers had vertically grouped classes. It might be argued that the reception children in these classes were advantaged in that their teachers were able to free themselves more frequently and easily to work with the youngest children, setting the more independent, older children to work on self-sustaining tasks. Vertical grouping, with its wide ability range, of its very nature necessitates individually planned programmes of work for the pupils. This may have further benefited the children in Vera and Annette's classes.

8.93 The children

Janet and Wanda taught the youngest children. One of Annette's children, was the same age at school entry as the mean age of Janet's class in the July. This, logically, would appear to have affected the receptiveness of these two groups. It did not appear, however, to have affected their stages of literacy development or their conceptual maturity as estimated by their scores on the assessment

measures at school entry, as has been discussed fully. Age, also, was not a statistically important factor in the analyses in Part 1 of the study.

The nature of the children's understanding of the alphabet has also to be considered. It will be remembered, from Chapter 1, Bialystok's (1991) work that the powerful, predictive nature of the children's knowledge of the alphabet stems from the sophisticated and hard-won understanding of the symbolic nature of print. These children after prolonged and meaningful exposure to written communication and stories and who were able to recognise and label letters of the alphabet, were further along the road to conventional beginning reading. The question is were the children in Janet and Wanda's groups functioning at this symbolic level of true understanding, or had they been merely well taught their alphabet mechanically in their nursery schools? The clue to this lies in their acquisition also of concepts about print. It is the argument in this thesis that the symbolic understanding of print (overtly demonstrated by the labelling of letters of the alphabet) is achieved through an earlier understanding of print and its conventions (measured by the concepts about print text).

The pupils in Janet and Wanda's groups were no less advanced on the Concepts-about-print test than those of Vera and Annette. In fact, Wanda's group had the highest score of the four classes. This fact, coupled with the homogeneity of the Boehm scores, indicates that the four classes were broadly equable in literacy development at school entry and their disparate progress has to have other explanations.

8.94 The teachers

The two more successful teachers were the more experienced. This was probably a very important contributing factor in their effectiveness. The teaching of the early stages of reading is a highly complex, skilled activity; working with young learners new to a bewildering organisation such as school, demands the most experienced staff. In addition, these two teachers were not only more experienced but they were able on a questionnaire form to clearly articulate their extensive knowledge and related practice. Vera and Annette had substantial expertise and had derived this from reading the theory but also by developing their teaching methods in line with their understanding in a dynamic and interactive way. Vera was especially impressive in her demonstration of this.

8.95 The teaching methods used by the four teachers

The eclecticism of approach of the two more "effective" teachers was also more evident. Vera and Annette upheld a structured balance of teaching approach giving due emphasis to the enhancement of the subskills of the literacy process in a meaningful and stimulating context. Janet and Wanda were notably more entrenched in a developmental approach: they believed and put into practice that interest and enjoyment carried children through the gargantuan task of learning to read and write. All the activities were valid and laudable, and an enthusiasm for the teaching of written language came shining through the responses.

The final main and important difference between the two groups of teachers was the understanding of matching their teaching to the child's developmental stage. The two "less effective" teachers made no mention of this central and crucial notion.

Clay (1991) states that in the first year of school the reception teacher needs to

1) Analyse from overt reading behaviours the skills and understanding of the new school entrant
2) Encourage and develop a range of decoding strategies so that the child extracts meaning from text.

Clay (1985) in her theory of literacy instruction explains that the inexperienced reader uses imperfectly and intermittently the cueing system available in order to decode words. The teacher, by close observation of the child's overt reading behaviours, monitors and teaches to promote the use of the weaker strategies. Fluent reading occurs when the young reader can automatically use all four types of cues, semantic, syntactic, visual and phonological (for fuller discussion, see 4.40).

Any teaching to a child still in the emergent literacy that does not take into account her stage of development and her strengths has to be less effective. From close consideration of these four teachers, Wanda and Janet were not as successful as Vera and Annette because they were not knowledgeable enough about all aspects of the process of reading, and they therefore were not able to minutely monitor the development of their pupils and teach to their emerging strengths and skills.